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ARTICLE I.—*The Pathology of Leucocythæmia.* By I. N. DANFORTH, M.D., Chicago.

The true pathology of leucocythæmia cannot yet be regarded as positively or permanently settled. Yet the revelations of the dead room and of the microscope, coupled with a pretty uniform and definite succession of *ante mortem* events, are perhaps sufficient to warrant us in indulging in the luxury of forming an *opinion*.

The history of this singular disease is very interesting; for it is spiced by a wordy war between two of our modern medical giants, namely, Bennett and Virchow. It is worth while to glance briefly at this contest, and at the causes thereof, since it is closely related to other and not less important questions in pathology.

In the year 1841 a case of disease of the spleen was admitted into the Royal Infirmary, of Edinburgh, under the care of Dr. Cragie. Death took place on the 1st of April of the same year, in "consequence of purulent matter in the blood."* The late Dr. John Reid examined the case, and concurred with Dr. Cragie in

* Aitken's Practice, Vol. II, p. 109.

his conclusion. The latter inferred "that, by some means or other, purulent matter and lymph had been mixed with the blood, and, circulating with it, had given rise to the peculiar febrile and inflammatory symptoms which occurred during life, and to death in the manner in which it had taken place."* Seeing that the spleen had been for several weeks inflamed, was enormously enlarged, and was, moreover, the only organ diseased, he naturally and very logically inferred that the "purulent matter and lymph" could have come from no other source, and thus took the first step in the elucidation of the pathology of leucocythæmia. Recognizing a pathological condition which was "in some respects new," Dr. Cragie made careful notes of the case, but did not publish his observations till four years afterwards.

On the 27th of February, 1845, John Monteith, a slater, was admitted into the Edinburgh Royal Infirmary, under the care of Dr. Christison. He died on the 15th of March following, and four days after, the body was examined under the superintendence of Prof. Bennett.† The case was subsequently published by Bennett, in the *Edinburgh Medical and Surgical Journal*, as one of "hypertrophy of the spleen and liver, in which death took place from suppuration of the blood;" and although the most evident lesion during life was enlargement of the spleen, Dr. Bennett agrees with Dr. Cragie in thinking that the immediate cause of death was owing to the presence of purulent matter in the blood, notwithstanding the absence of any recent inflammation or collection of pus in the tissues, and that it produced the febrile symptoms."‡ In the same issue of the journal above referred to, Dr. Cragie's case was also published. Bennett, however, regarded his case as a particularly interesting one, since it demonstrated "the existence of *true pus*, formed universally within the vascular system, independent of any local purulent collection from which it could be derived;"§ while Cragie, as we have seen, believed the enlarged spleen was the true source of the so-called pus. In other words, Bennett believed that his case was one of true and general suppuration of the blood; that pus cells were formed in the *liquor sanguinis*, within the vessels, without any inflammation, or phlebitis, or other textural cause; while Cragie was of opinion that the

* Aitken, loc. cit.

† Aitken, loc. cit.

‡ Bennett's Lectures, p. 815.

§ Aitken, loc. cit.

inflamed and hypertrophied spleen was the real source of the white corpuscles.

Before alluding to the next historic phase of this subject I wish to call attention to one fact which seems to me to be of some importance, namely: the theory which Bennett then adopted concerning the origin of the superabundant white corpuscles was precisely in accordance with his present notions of spontaneous generation. He was then, as now, a pronounced advocate of spontaneous evolution, and it is by no means strange that he should have believed in the irresponsible origin of pus corpuscles. A plainer and broader-gauged putting of the case is this: the man who admits spontaneity at all, throws his compass overboard, and must not be blamed for guess-work navigation. While Bennett was toying with his bauble of spontaneity, Virchow was sinking a shaft in a mine which yielded *facts*.

About one month after the publication of Bennett's and Cragie's cases, Professor Virchow published his first article upon this disease in "Frorieps Notizen," his observations being based upon a case which had fallen under his notice *post mortem*. The same enormous increase of white blood corpuscles was observed; the same absence of inflammation of the blood vessels or elsewhere, and the same enlargement of the spleen. Spontaneous origin of pus cells in the blood was contrary to the pathological as well as the life-long biological doctrines of Virchow; hence, from very necessity, he fell back upon the enlarged spleen, regarding its increased as well as perverted functional power as the source whence the blood derived its great accession of white corpuscles. In 1845-6, several cases were recognized in England before death, and the knowledge of the morbid anatomy considerably increased. In 1847, Virchow published an exhaustive article upon this disease, conferring upon it the name of "leukæmia," and describing a new form, which consisted essentially in an enormous enlargement of the lymphatic glands, while the spleen was not materially altered. In 1851-2, Bennett reviewed the whole subject at length in a work entitled "Leucocythæmia, or White-all Blood," in which he abandoned his former view of suppuration of the blood, and adopted that of Virchow. Hereupon there ensued a lively war of words, mainly between Bennett and Virchow, but in which Kolliker also bore a part, concerning priority of discovery on Bennett's part, and cor-

rectness of pathological interpretation on the part of Virchow. The real facts in the case seem to me to be briefly this, judging from Aitken's account which appears to be severely impartial :

1st. Cragie first recognized the morbid condition of the blood, and partly interpreted its origin.

2nd. Bennett next recognized the morbid condition of the blood, and immediately, and in advance of any one else, published his observations, but totally misunderstood the pathology of the disease.

3rd. About one month thereafter, Virchow published his first article on white cell blood, and correctly explained its pathology.

So much for the history of leucocythæmia. Before discussing the nature of leucocythæmia, I wish to direct attention to certain cardinal facts which ought to be brought squarely to the front.

• 1st. The white corpuscles are *never* materially or permanently increased without some antecedent alteration of important organs.

2nd. The organs uniformly involved are the spleen, or the lymphatic glands; not unfrequently, the spleen AND lymphatic glands; in a small proportion of cases, the thyroid gland and supra-renal bodies have also been found changed.

3rd. The liver is generally more or less affected, especially in cases which are unusually chronic; but not until the disease has been for some time in progress; in other words, *not* as a *primary* or *necessary* element of the disease.

4th. The organs thus involved are always enlarged; generally to an immoderate extent—but sometimes death may even occur with only a medium degree of increase of bulk.

We have then this sequence of pathological events :

a. Enlargement of the spleen, lymphatic glands, thyroid gland and supra-renal bodies; or that group of organs which have long been known as "blood glands" or "blood-making glands."

b. Increase of the white blood corpuscles, and decrease of the red blood corpuscles.

c. Enlargement of the liver.

Hence the study of the pathology of leucocythæmia resolves itself into the study of the nature of the primary anatomical changes connected therewith.

By far the most frequent among these changes we find the enlargement of the spleen, and this constitutes the essence of that

form of the disease which Virchow has named "splenæmia." Splenic leukæmia commences, according to Rindfleisch, with "a pure hyperæmia of the spleen,"* this produces tumefaction of the organ, and, after a longer or shorter time, is followed by a "considerable increase of volume of the pulp;"† in other words, a true and simple hyperplasia of the latter substance. At a later stage the malpighian bodies are crowded with blood, and also undergo a marked increase in size; this increase depends upon a rapid multiplication of colorless cells within these bodies, by the subdivision of previously existing cells, and also upon a corresponding increase of capillaries, so that each malpighian corpuscle has its functional capacity doubled or trebled. The connective tissue of the spleen is likewise increased, but only to the extent demanded by the increased size of the organ. To state the fact in the simplest manner, there is an *abnormal* development of *normal* splenic tissue—hence an *abnormal* performance of *normal* splenic function. This leads us directly to the question, "What is the function of the spleen?" In regard to this point, Rindfleisch observes: "The spleen has from all time been regarded as an important organ for the renewal of the blood; in our days, it has at one time been designated as the grave of the red corpuscles, at another as the birth place of the colorless; Kolliker has probably correctly ascribed to it both functions."‡ Without stopping to multiply quotations, it is sufficient to remark that the great majority of recent writers concur in believing that the spleen is directly concerned in the renewal of the white corpuscles, whatever may be its relation to the red globules. If this view be correct, the pathology of splenic leucocythæmia stands explained, so far as it can be at present; and if Kolliker's theory be accepted, it explains not only the increase of the white, but also the diminution of the red corpuscles as well. Both are to be attributed to the great increase of the functional capacity of the spleen, and this, in its turn, depends upon the immense growth of the proper tissue of the organ. Two interesting facts, which furnish an additional buttress to this view, are worth noting:

1st. Scherer has found in splenæmic blood, constituents foreign to normal blood, namely, lactic, acetic and formic acids, gelatine and

* Rindfleisch, p. 184.

‡ Pathological Histology, p. 184.

† Op. cit., p. 185.

hypoxanthin; but these same elements are also found in the pulp of the healthy spleen.

2nd. Barry, Murchison and Bennett have each met with a case of the disease in which *post mortem* examination revealed the presence of *two* spleens, one greatly hypertrophied, the other quite small; this—writes Dr. Barry—“would seem to indicate that in leucocythæmia there is a natural tendency to the formation of an exuberance of splenic tissue.”*

That form of the disease which Virchow calls “lymphæmia” may be dismissed with few words, since it is precisely analogous to the splenic variety. We always find the lymphatic glands enlarged from a simple accretion of their normal tissue—in fact, a true hyperplasia. “If we examine fine teased out sections”—says Rindfleisch—“we find nothing that might not occur in a normal lymph-gland.”†

In both forms of the disease, then, we have to deal with an immensely exaggerated physiological process—a process which we may properly characterize as pathologically physiological. Leucocythæmia is the product of an unnatural and uncalled-for growth of certain organs, just as the “big woman,” and the “fat boy,” who always intercept us as we emerge from the circus tent, are the product of an unnatural and uncalled-for growth of certain tissues; the one is as pathological and as physiological as the other. It is true that we sometimes find heteroplastic elements in the hyperplastic spleen, or lymphatic glands; but when this is the case, it is simply the introduction of a superadded element, which has no direct or necessary relation with the primary disease. Indeed, as a general thing, heteroplasia of the blood-forming glands, means the absence, rather than the presence, of leucocythæmia. It is true, also, that the liver is frequently enlarged in the course of this disease; but this is a secondary, not a primary process—the *consequence*, not the *cause* of leucocythæmia. The same thing has been observed with reference to the kidney by Virchow; in one case examined by him the liver was crowded with white corpuscles, and this infiltration followed the ramifications of the portal vein, and the cells were evidently conveyed there by that vessel. In the same instance, the kidneys were also infiltrated with white corpuscles; and the influence is fair and logical that these organs were vainly

* Beale's Archives, Vol. II, p. 5.

† Op. cit., p. 186.

trying to rid the blood of its superabundance of leucocytes. It is all but needless to say that these facts have no relation, direct or indirect, with the disease *per se*.

In relation to the underlying cause of leucocythæmia, we know precisely *nothing*. We can trace it to modified, or, more correctly, exaggerated cell action, but there, for the present, we must stop.

Virchow speaks of a "lymphatic diathesis," but this conveys no real meaning. We might as well talk of a "fighting diathesis" in connection with a quarrelsome man, or a "loafing diathesis" in connection with a lazy man. Leucocythæmia sometimes follows inflammation of the spleen or of the lymphatic glands; but why it follows inflammatory action in some cases and not in others, we are unable to say. In the study of this disease, as of all others, at a certain point in our investigations we find ourselves confronted by ultimate facts, which are, in the present state of our knowledge, inexplicable. In this case, therefore, as in a legion of others, we must be content to trust the developments of future years.

In conclusion, I wish to ask attention to one more point, which, for me at least, possesses a novel interest; namely, the structural analogy existing between leucocythæmic and reptilian blood. The cardinal point of difference between mammalian and reptilian blood, so far as the microscope has determined, consists in this: that the former contains a large proportion of non-nucleated corpuscles or disks, and an exceedingly small proportion of nucleated cells, while the corpuscles of the latter are always nucleated. Hence the blood of patients laboring under leucocythæmia approaches, in its formed elements, the structure of reptilian blood. Add to this the great increase in the so-called "lymphadenoid" tissues, the slowness of the heart's action, the reduction of the temperature of the body, and the sluggish condition of the nervous system, all of which are peculiarities of reptilian life, and we have a singular chain of facts which are not altogether devoid of interest.

ARTICLE II.—*Exposure and Stretching of the Spinal Nerves.* By
PROF. VON NUSSBAUM, of Munich, Bavaria. (Translated and
abridged by PROF. J. W. FREER, Chicago.)

The above title is applied by Prof. Von Nussbaum to a new surgical operation recently performed by him, for the cure of certain affections of the spinal nervous system, the nature of which will be made manifest in the following translation from his report :

"Rudolf Hailer, 23 years old, was, on the 1st of September, 1870, (during battle near Bazeilles,) severely struck and injured by means of the butt of a gun. The regions involved were the back of the neck, the left shoulder and elbow. Subsequently an abscess formed in the neck, which soon opened and healed kindly, but directly thereafter there appeared a condition of tonic contraction of the muscles of the left breast, arm, forearm and hand. It was not organic contraction, but distinctly a cramp, that increased in proportion to applied opposing forces. Anæsthesia was gradually developed on the back of the forearm, that finally reached a degree that would permit of deep cuts, without evidence of pain. Many skillful surgeons had already exercised their art, but the cramps continued the same, or at times increased, many times the fingers bored for hours with such force in the palm of the hand, as to cause the skin to be lacerated. The pectoralis major felt of the hardness of stone. Iodine, mercury, vesicants, gymnastics, galvanism, all were fruitlessly applied. Anæsthesia from chloroform caused complete relaxation only during its profoundest influence, at which times the arm was frequently confined to a splint, but long before the cessation of the narcosis, the cramps would return, and with such force that safety required the liberation of the limb.

"Also tenotomy was performed on many of the involved muscles with only transient relief.

"So had everything earthly been attempted, but poor Hailer remained the same unfortunate creature. Daily he begged to be freed from his unendurable condition, saying that he was ready to submit to any operation, even dislocation at the shoulder.

"I held Hailer's condition to be due to excessive irritability of the motor nerves, the spinal cord participating.

"Partly as a means of proof of my own diagnosis, and partly for the sake of advice as to a means of cure, I begged our much-respected physiologist, Prof. Voit, to examine the case.

"Prof. Voit held the lesion to be preponderatingly central, as appears in the following note :

"The contraction does not depend upon blows received upon the arm, but rather upon those inflicted on the back of the neck. The cause cannot be peripheral, since the nerves of sensibility are paralyzed, while the motor are irritated, a separation of phenomena that obviously cannot obtain from causes of an eccentric character, because of the mingled relation of the two varieties of nerves.

"The injured part is to be sought near the spinal cord, corresponding to the origin of the bronchial plexus, and involving the inferior cervical vertebra. It is supposable that the blow has not injured the cord, but rather the left roots, the posterior of which are quite separated, or at least sufficiently injured to interrupt their functions, while the anterior are not torn, but some condition has been induced which causes constant irritation, for example, a deviation of the vertebra, or a splinter of bone driven into the intervertebral foramina.

"The lesion can also have its seat in the spinal cord itself, in which case the left posterior segment of the cord is involved, and not the posterior horn of gray matter, for if the latter was embraced in the change, there would be absence of sensibility in all parts beneath.

"It is difficult to say if the sensibility will ever be restored, since possibly the posterior roots are completely separated.

"The contraction must be relieved by removal of the cause, which is not well understood. Perhaps it is due to a contracting exudation, or to the pressure of a fragment of a neighboring vertebra. That the muscular cramp has continued so long without exhaustion, is a favorable sign."

"Notwithstanding the refreshing character of the above instructions over a case that had already caused me much severe meditation, yet the views of Prof. Voit placed the hope of cure still more distant, for the spinal cord—whose participation in the pathology was almost certain—had as yet been considered as inaccessible to the surgeon's knife.

"Again I tried energetic doses of narcotics and the metals, since by the use of both one often sees useful results in central injuries of the nervous system, but in this instance the trouble only seemed to be enhanced thereby.

"My memory recalled several cases of epilepsy, that I, as pupil of the celebrated Romberg, had seen cured by the use of the knife. The removal of a sensitive cicatrix, or a compressed nerve, had frequently terminated fortunately. I re-read the beautiful experiments of Brown-Sequard upon guinea pigs, upon which artificial epilepsy was produced by injury of the ischiatic nerve; but alas, Hailer's case did not resemble epilepsy.

"In the winter session of 1860-61 of the children's clinic of Prof. Hanser's, I had operated upon a scrofulous child of six years, for ankylosis, and great angular deformity of the left elbow, by resection, and to the surprise of myself and my scholars we found that a long standing contraction of the third and fourth fingers was at once relieved through the incidental stretching of the ulnar nerve.

"This certainly very mild case resembled most nearly my present problem, and I determined with Hailer to lay bare all the implicated nerves, and to pull and stretch them, and since the spinal cord seemed to be implicated, I seized upon the plan to follow the four inferior cervical nerves to their points of exit from their respective foramina, and perhaps to relieve them from adhesions, and even to extend them.

"The patient was made aware of the uncertainty of the result, nevertheless, he acquiesced joyfully.

"On the 15th of February, the operation was performed, the patient being fully narcotized with chloroform. The first incision was in the track of the ulnar nerve, behind the inner condyle, the nerve elevated, gently stretched and replaced.

"A second incision was then made in the axilla, in the track of the axillary artery, and the surrounding nerves, singly drawn out of the wound, stretched, then replaced, the wound cleansed, and closed with sutures.

"Finally I made a cut four inches long in the direction of the largest curvature of the clavicle, as in operation for ligature of the subclavian art, divided the platysma myodes, exposed the plexus brachialis, lifted it out and followed each fasciculus with my right

forefinger as far as their point of exit from the inter-vertebral foramina, a task not as difficult as I had apprehended.

"Then I pulled each in turn, backwards, forwards, upwards and downwards, in a word, disturbed them as near to the center as possible, and finally, performed moderate traction upon each, as if to draw them from their connection with the cord. During this latter encroachment upon the nerve centre, powerful contractions of the muscles of the corresponding side of the chest and arm were observable.

"The nerves, which seemed much longer than before the traction, were carefully replaced, and the wound closed.

"It is worthy of remark, that during these extensive manipulations, not a single abnormality was observed, no thickening, and no adhesions of the neurilemma. Only two subcutaneous vessels required ligatures. I deemed it unnecessary to interfere with the four superior cervical nerves, as there had been no symptoms implicating the phrenic, or any other division of this segment of nerves.

"The narcosis was protracted and the awakening correspondingly slow. With indescribable reflections, I awaited returning consciousness, that must decide whether the contractions had only been in abeyance during this state, as had been the case on all previous occasions. To my great joy and surprise these conditions did not reappear.

"The forearm and hand were again under voluntary control, and all the usual movements could be performed. Sensibility returned to the skin of the back of the arm, to such a degree that the slightest touch was perceived, with the eyes blindfolded.

"For a few days there was much pain in the wounds, especially in that of the neck, where my finger had followed the nerves.

"The suppuration from day to day became more and more abundant, to the extent of exciting apprehensions of pyemia, a condition then prevailing in the wards."

Prof. Nussbaum discourses as follows concerning pyemia :

"I know very well that many of my honored colleagues hold that pyemia is dependent upon *objective* conditions of wounds, and that the danger is not greater in hospital than in private practice. If this be true, how can one explain that in private practice this

state seldom if ever occurs, while in hospitals, large numbers die of it yearly.

"Of the 11,000 operations that I have made, 4,000 were performed in the hospital clinic, and 7,000 in private practice, and in my two private hospitals, the latter surrounded by beautiful gardens and wholesome neighborhood. Of the 4,000 hospital patients, 200 died pyemic, while from the 7,000, only thirty were lost in this manner.

"To be sure, cases do arise in private practice, only it happens very seldom, and mostly where there are unavoidable cloacæ of offensive pus, while, in the hospital wards the patients are often seized when the wounds are nearly healed.

"I acknowledge that the mechanical conditions of the wound, the constitutional disposition, and the local care bestowed, are very important factors, only the chief agent is the hospital air. Prof. Thiersch, of Leipsic, expressed the opinion, that if his clinical surgical patients could lie with their heads out of the windows, he would have no fear of pyemia.

"Since my declaration of so much distrust of hospital air it may be inferred that every protection was adopted, therefore he was caused to inspire through a sort of respirator containing lint, charged with carbolic acid, that the air might be purified from all low organisms.

"While I hold that such service cannot be denied to carbolic acid, still I do not belong to that class who cauterize fresh wounds and destroy good granulations, by its excessive use.

"It seems almost ludicrous for surgeons to besprinkle tables, knives, and other utensils with this agent, but those who recollect that ten years ago nearly all compound fractures, after eight to fourteen days, swam in stinking pus, then amputation, pyemia, and death, and who have since the introduction of Lister's method of bandaging, seen cases heal with a few drops of suppuration, must be blind not to see and acknowledge this as great advancement in surgery."

We omit the remainder of the report concerning the vicissitudes that attended the healing process, which, as one might have predicted, was tedious.

The learned Professor concludes as follows :

"At the end of the eleventh week all was healed, therefore I could commence with the necessary gymnastic practices, which caused a rapid improvement in the movements of the limb, and in his general health, so rapid, that on the 102d day he was dismissed from the hospital, cured."

ARTICLE III.—*Items.* Collated by J. H. ETHERIDGE, M.D., Chicago.

"ASTRONOMICAL ETIOLOGY."

Dr. M. L. Knapp, a veteran worker and observer in medical science, writes to the *New York Medical Journal* from Cadereyta, Nueva Leon, Mexico, on the above subject. A short review of the article is difficult, because the subject is so vast. His article covers about thirty pages of the above journal, and every line of it is absorbingly interesting. The drift of his argument is to prove a *planetary* cause for the visitations of epidemics, epizootics, blights in vegetation (and consequent famines), etc., etc. The sun, besides being the source of light, heat and electricity, possesses an *attractive* influence over the earth, making the enormous tidal waves of the ocean. The moon also possesses the latter influence, and being nearer to us than the sun, raises higher tidal waves than the larger luminary. This force of gravity is well known to *diminish* as the square of the distance between two sidereal bodies *increases*. Next to the sun, astronomers tell us that the planet Jupiter is by far the most influential element in the planetary system over us. Saturn comes next, in its influence over the earth. These two planets in making their perihelion circuits "must affect the earth and the organized existences on its surface to a considerable extent or degree, by their increased attraction of gravitation and disturbance of its atmosphere, and the natural vital stimulants of all organized life" on the earth. "The same is philosophically true of the approaches of all the other planets, in proportion to their masses and proximity. When all approach coincidently, the combined effect appears by the illustrations which I will offer to be very disastrous to the well being of man, animals, and the crops and the fruits of the earth."

Blights in vegetation invariably precede and accompany epidemics. These coincidences have been observed in all time, but no one has explained them. "What causes them?" has so vexed the thinking world that the unsatisfactory answer has been forced from us, "*God only knows.*" "It is clear to me now," the writer says, "though I may fail to convince others, that the recurrence of the blighting years and meteorological inharmonies that cause famines and epidemics are chargeable to *planetary influences.*" In attempting to account for unusual vicissitudes, excessive heat, cold, droughts, and continued rains, observers seem never to have connected them with the perihelia of the larger planets, (either alone or singly,) when there were consequent powerful disturbances of meteorological conditions. Heat and light are natural stimuli, without which the organisms of animal and vegetable life cannot exist. The temperate application of these seems to be the rule favorable to life, "or, in other words, moderate impressions (of light and heat) are favorable to life and health, and extreme impressions injurious." The force of gravity, greatly increased at times by the perihelion of the larger planets, plays an "important part in the universe as heat or light, * * * and I shall soon illustrate that the *pestilential periods are always coincident with the perihelia of the larger superior planets, especially of Jupiter and Saturn.*" Preceding and accompanying epidemics there are, invariably, "malign, cosmical phenomena," and these phenomena are synchronous with the near approach of the larger planets to the earth and sun, which approach Dr. K. believes to be the sole cause of the great disturbance of the earth's atmosphere. Ascertaining the time of the perihelia of Jupiter and Saturn, and reviewing the recorded history of epidemics, reveal a startling coincidence of atmospheric disturbance and epidemics. "The revolutions of Jupiter, the most disturbing element of the system, seem to govern the recurrence of the pestilential periods. His period of revolution is 11 years and 315 days—somewhat less than 12 years—and this interval of time corresponds most remarkably to the interval of recurrence of the pestilential periods."

Since Jupiter's perihelion in the year 1572, the earth has been visited, every twelve years—dates tallying exactly with recurrences of the near approach of this planet—"by aggravated pestilence

the world over." The last visitation was in 1868, and everybody recalls the cholera of that year. Saturn's return is every 29 years and about 167 days, and each perihelion of this planet is likewise marked by pestilential visitations. Every fifth perihelion of Jupiter occurs in the same year with that of Saturn, and these periods "I find, without exception, to be *remarkably aggravated pestilential periods*, extending generally through a whole revolution of Jupiter, or even to 15 years or more duration. These periods will constitute my examples. They are bold and unmistakably pronounced. They occur in cycles of about 59 years—59 years less 16 days. * * * Five of these commensurate periods have occurred within the last 300 years." (The writer does not go farther back than three centuries, feeling that that period is long enough to test his theory.) The first one of these five periods was in 1620. During this cycle there were "great disturbances in the physical world, and severe epidemics. * * * The Virginia Colonies were nearly depopulated. The North American Indians nearly all died. The Pilgrims found their bones bleaching above ground in 1620." The next period of the perihelia of Saturn and Jupiter was in the year 1679. "In 1677 small pox raged in Massachusetts with the mortality of the plague. In 1678 fevers and anginas were epidemic in Europe, and authors relate that four millions of people perished that year in Africa of plague." At the next period of perihelia of these two planets, in the year 1738, there were well marked pestilential periods. Passing on over another period of 59 years we come to the frightfully pestilential period of 1797. During this period of perihelia Noah Webster wrote his exhaustive "History of Pestilence,"—the work being prompted by the epidemics raging at that time. This was in the day of Dr. Rush, and any one familiar with his writings recalls this period. During the summer of 1798 the yellow fever was epidemic in every Atlantic seaport to Portland, Maine. In April, 1797, Saturn's proximity to the earth was the greatest, and that of Jupiter occurred in August of the same year. In the August of the *next* year, 1798, Uranus also made his perihelion, and thus three planets were in close proximity to our poor earth, and the combined influence of them all was synchronous with a remarkably pestilential period. The last perihelion epoch the writer calls our attention to was in 1856. "The five periods of Jupiter [previous

to 1856, while Saturn was approaching. E.] were 1856, 1845, 1833, 1821, and 1809. Most of my readers will recollect the yellow fever epidemics of 1853 in New Orleans, 1855 in Norfolk, and 1856 in New Orleans again with greater severity; and the ship fever epidemics of the Irish famine years from 1845 to 1849, when they culminated in cholera; as well as the general pestilence, all over the world, of this period, extending through to 1856."

In reviewing this article I have enumerated only the near approach of these two planets conjointly, omitting, for brevity, the frequent perihelia of Jupiter, which the author has carefully noticed in his essay, for nearly three centuries, in every instance. Rarely have there been more than two planets near the earth at the same time, and according to Dr. Knapp's theory the more planets in their perihelia simultaneously the more pestilential the period on the earth. Such a time occurred in 1798, when Saturn, Jupiter and Uranus were in their perihelia. Of course such events are rare, as the farther from the sun we go the seldomer the return of the planets. Leaning on this theory we certainly have much to expect in the line of epidemics in the future. Taking the approaches of Jupiter alone—leaving Saturn out of calculation—we shall find every twelfth year—the year of his return—characterized by epidemic visitations to an astronomical certainty. His last perihelion was in 1868; his succeeding ones, in round numbers, will be in 1880, 1892, 1904, and so on. Hence our next epidemic period may be looked for in 1880. But if Dr. K. be correct in his propositions there is a terribly "sable period not far distant in the future,"—in fact, commencing in 1880 and extending over a period of five or eight years. Jupiter's perihelion occurs in 1880, and before he ceases exerting his powerful influence over us, he and Saturn will form a "conjunction," Uranus and Neptune will make their commensurate perihelia in 1882, and Saturn will make his perihelion passage in 1885. "Lively times in physic—lively times for doctors and undertakers also—may be looked for by those who believe in the certainties of astronomy, all the way from now to then, for Uranus will not complete his perihelion circuit until the going out of the 19th century, and Neptune not until 1923; so that malign influences may be looked for under every recurring perihelion approach of Jupiter, during the cycle in which we are now sailing, viz.: 1880, 1892, 1904, and 1916."

RESEARCHES ON THE MOVEMENTS OF THE UTERUS.

In the last part of Stricker's *Medical Jahrbucher*, are recorded some experiments by D. L. Oser and W. Schlesinger, performed in investigating the movements of the uterus. These movements being unknown, and those of the intestines, ureters and other organs being well known, the experiments commenced work in a new field. Curarised rabbits were chiefly used.

The effects of (1) arrested respiration—(2) aortal compression and rapid abstraction of blood—(3) sections of the cord.

(1) Krause, Meyer and Basch have all shown that asphyxia incites intestinal movements. No one has shown that the uterus is similarly influenced—but Oser and Schlesinger show, that contractions of this organ, commencing from the tubae and cervix and soon extending over the whole organ, supervene in from ten to thirty seconds after suspension of respiration. The organ becomes pale and rigid, and moves downwards and towards the mesial line. The contractions increase in vigor with the continuation of the asphyxia for some moments.

(2) Aortal compression, rapid abstraction of blood, and compression suddenly applied to the carotids and vertebrae, produced general contractions of the uterus in from 80 to 120 seconds.

(3) Sections of the cord showed that uterine contractions occurred in about 100 seconds whether asphyxia or aortal compression were resorted to, and that *no* uterine contractions followed when there was general loss of blood or compression of the cerebral arteries. The brain does not send any stimulus to the uterus along the vagi, since section of them produced no influence on the uterine movements, whether the cord were sectioned or not. From their experiments they think that the uterus nerve centre lies in the medulla, and not in the cord lower down.

ACUTE ARTICULAR RHEUMATISM TREATED WITH IMMOVABLE APPARATUS.

Prof. Luigi Concato, of Bologna, Italy, advocates this treatment for inflammatory rheumatism, claiming for it a marked superiority over any other treatment, which certainly seems very reasonable. He says: "It fixes the articular extremities immobile, and thus prevents the torturing pain of motion. It compresses the articulation

uniformly and continuously, and thus antagonizes the distension of the soft parts and checks the disposition to exudation. It favors by its direct pressure force, the reabsorption of exudation, and consequently abbreviates the duration of the disease. In this way it prevents complications of pericarditis, endocarditis, etc." It produces its beneficent effects at once, giving relief from the constant fear of moving which the patient always has, and in a great degree this immobility relieves actual pain.—(*The Clinic*.)

NEW METHOD OF DETECTING SMALL POX.

An Italian physician can detect the presence of variola before the appearance of the eruption by an itching on his forehead and chin! He has verified the statement by a number of observations, and his assistants also confirm it by their own experience.—(*Pacific Medical and Surgical Journal*.)

APPLICATION FOR CHILBLAINS.

Two parts oxide; one part tannic acid; ten parts glycerine; eight parts balsam Peru; four parts camphor; to be applied night and morning.—(*Union Med.*, Oct. 15.)

POMADE IN LOSS OF HAIR.

M. Bouchut recommends the following, to be rubbed in night and morning, when the hair falls off after delivery or serious illness, giving at the same time, internally, iron and quinine, and in some cases the arseniate of soda: Ten parts extract henbane; five parts tincture of iodine; thirty parts beef marrow; scenting with bergamot.—(*Id.*)

ORCHITIS TREATED WITH ABSOLUTE REST.

Dr. Brambilla, of Lodi, Italy, publishes in the *Lombard Medical Gazette*, an account of twenty-two cases of orchitis treated by this means—twelve of these were gonorrhœal, six traumatic, and four idiopathic. In all the cure was complete. Medium time of treatment was five days, "although on admission the affection had lasted from two to five or six days, and the testis had acquired from two to five times its normal size. None were dismissed until the organ had reacquired its normal size." "By absolute rest is meant that the patient should lie continuously on his back, with a small cushion between the thighs, in order to support the testis, and that he must

never get off the bed even for the purpose of attention to his natural wants." The Dr. thinks orchitis can be more rapidly and more effectually cured in this way than by any of the ordinary means.—(*London Medical Times and Gazette.*)

OINTMENT FOR PILES.

M. F. Guym, of the Necker Hospital, Paris, prescribes, in painful hæmorrhoids, an ointment compounded of one part extract belladonna, two parts extract rhatany, and fifteen parts lard.—(*The Doctor*, August, 1872.)

LIME FOR POISONING BY PLANTS AND INSECTS.

A standing antidote for poisoning by oak, ivy, etc., is to take a handful of quicklime, dissolve in water, let it stand half an hour, then paint the poisoned parts with it. Three or four applications will never fail to cure the most aggravated cases. Poison from bees, hornets, spider bites, etc., is instantly arrested by the application of equal parts of common salt and bicarbonate of soda, well rubbed in on the place bitten or stung.—(*Boston Jour. Chemistry.*)

INGROWING TOE NAIL.

About twenty years ago I applied a bit of compressed sponge to afford temporary relief, and was delighted to find that it effected a radical cure. I make the sponge as solid as leather, by wetting and then winding a string tightly around it and drying it thoroughly. Of this I cut a small pyramidal piece, less than a grain of rice. This I insert beneath the nail and secure by strips of adhesive plaster, applied longitudinally, to avoid compression. The sponge soon becomes moist and swollen, keeping the nail from the irritated flesh. Any granulations should be previously destroyed with strong nitric acid. I have adopted this plan upon many occasions and have never found it to fail.—(Benj. Blower, *British Med. Jour. The Clinic.*)

POSITIVE SIGN OF DEATH.

Dr. Hugo Magnus, of Breslau, suggests the following "simple physiological and conclusive 'test': All that one has to do, therefore, is to tie a string firmly around the finger of the supposed corpse. If there is the least spark of life left, that is, if the blood circulates at all, the whole finger from the string to the tip will gradu-

ally turn a bluish red, from the engorgement of the veins. Nothing else, no *post mortem* infiltration, can be mistaken for this appearance."—(*Philadelphia Medical and Surgical Reporter*.)

NEW METHOD OF FORCED DILATATION FOR THE TREATMENT OF
ANAL FISSURE.

The patient being chloroformed, a small bivalve speculum uteri is introduced into the rectum, which when closed is only three centimetres in diameter, but when completely opened becomes eight centimetres. This is easily introduced when closed, and, being opened, it can only be withdrawn by use of considerable force. The resistance being overcome, the parts are distended, and a cure is at once effected.—(Dr. Alf. Liegard, *La Tribune Medicale*, April, 1872. *Am. Jour. Med. Sciences. Med. Archives*.)

ARTICLE IV.—LECTURE 2ND — *Neuralgia*. By WALTER HAY, M.D., Assistant to Chair of Practical Medicine, and Lecturer on Diseases of Brain and Nervous System, Rush Medical College.

GENTLEMEN: Having in my last lecture indicated to you the prominent outlines of peripheral anæsthesia, I will now proceed to direct your attention to the opposite pathological state of the nervous system, hyperæsthesia, or as more generally called, neuralgia, implying nerve-pain.

The term hyperæsthesia, applied to this condition by Romberg, is, like most of our technology, of Greek origin, and is defined by that author as "exalted irritability and increased irritation of the sensitive or centripetal nerves."

Anstie, one of the most recent, as well as one of the best writers upon the subject, objects to the term hyperæsthesia, upon the ground that it implies exaltation of function, and the term, or idea of function, being normal, cannot be applied to pain, which is abnormal. His language is as follows:

"1st. Pain is not a true hyperæsthesia; on the contrary, it involves a lowering of true function.

"2nd. Pain is due to a perturbation of nerve-force, originating

in dynamic disturbance either within or without the nervous system.

"3rd. The susceptibility to this perturbation is great in proportion to the physical imperfection of the nervous tissue, *until* this imperfection reaches to the extent of cutting off nervous communication (paralysis)."

This is in reality a mere battle of words against a phantom of the author's own creation. His ultimate object, however, is to impress upon his readers the fact that pain, in general, and neuralgic pain in particular, is an expression of a debilitated condition of the system.

Neuralgia, then, may be defined as a disease of the nerves characterized by acute darting, lancinating, boring or burning pains, following the course of sensory or afferent nerves, intermittent in their duration, and usually unilateral, unaccompanied by febrile or inflammatory reaction.

This description will cover the vast majority of cases; in some, however, the pains are continuous or aching, but these will be referred to later.

The intermissions are usually complete, but not always, and generally, although not invariably, regular, that is, recurring after regular intervals; during these intervals the patient feels perfectly well, indeed the transition from intense suffering to complete relief is very striking.

This class of diseases was first described by Aretæus, but we find no very distinct description of it again, until that of Andre, whose account of the malady was published in Paris in 1756.

Fothergill, a little later, 1782, published in London his treatise upon painful affections of the face, containing a very good description of facial neuralgia. In 1782 a memoir was presented to the Royal Society of Medicine, Paris, by Thouret, in which a form of facial neuralgia is described, to which the name "*tic douloureux*" was first applied.

The different varieties of facial neuralgia were first classified by Chaussier in a memoir published in Paris in the year XI of the French Revolution, or 1802. Reverdit, a French author, likewise published in Paris in 1817, an inaugural thesis entitled "*A Dissertation on Facial Neuralgia or Prosopalgia*," in which pain upon pressure is first indicated as a symptom of the disease. In the same year,

1817, a thesis upon the same subject was also published by Barbin. An excellent treatise (for that date) upon facial neuralgia was that of I. Frank, of Turin, published in 1822.

Regnier, of Paris, wrote upon the same disease in 1819. Chaponniere in 1732 wrote a treatise upon the seat and causes of facial neuralgia; and in 1834 the intermittent character of the disease was specially noted by Bellingeri, in a memoir published in Turin, from observations made upon 5,612 cases. This view (of the intermittent character of neuralgia) was sustained by Rennes in 1836; and in the same year Brerard limited facial neuralgia to the fifth pair of nerves; although two years later, in 1838, Jobert de Lamballe controverted this proposition, asserting that all the nerves of the face were subject to this disease.

In 1840, the Sydenham Society, of London, published a translation, by Dr. Sieveking, of the Manual of Diseases of the Nervous System of Man, by Moritz H. Romberg, Professor of Medicine at the University of Berlin, and this great work, together with that of Valleix, "Treatise on Neuralgias and Painful Affections of the Nerves," published in Paris in the following year, 1841, constitute the sources from which the most that is now known and written upon the subject is drawn.

Of cotemporary writers, Charles Bland Radcliffe, C. Handfield Jones, and Anstie, of London, and Hammond, of New York, have enriched the literature of the subject, and condensed into available form the gist of all which is worth knowing thereupon. The best and most comprehensive summary is that of Anstie, and I would advise those of you who desire to familiarize yourselves with the disease to study his little work.

Neuralgias may be classified, as to their origin, into—

1st. Malarial, or those occasioned by exposure to miasmatic influence, and these are nearly related to intermittent fever or ague, in which the effect of malarial influence is manifested through the motor, instead of, as in the case under discussion, through the sensory, nerves.

2nd. Neuralgias of the period of developmental activity, *i. e.*, in early life, in which nerve tissue in common with all others may be supposed to be in a condition of instability, by reason of the rapid nutritive changes which it sustains at this time, and hence extremely liable to functional perversion.

3rd. Neuralgias of the middle period of life, when the wear and tear of brain and nerve is at its maximum.

4th. Those of the period of decay, when the condition of nerve tissue already referred to as incidental to the developmental period of life, has been re-established, when by reason of the disturbance in the equilibrium between nutrition and decay, between advancing and retrograde metamorphosis of tissue, a state of organic instability again occurs—a state corresponding to Romberg's definition, "exalted irritability."

5th. And lastly, neuralgias of anæmia or mal-nutrition, in which again the condition of nerve tissue is one of instability, for the same reason as has been assigned in the last preceding class of cases.

Throughout the classification you will perceive that there is one factor common to every class, and that factor is an enfeebled condition of nerve power, debility, an unstable state of nerve tissue, increased mobility of its constituent molecules, in consequence of which its capacity to resist the influence of disturbing causes is diminished. A full appreciation of this fact will materially aid you in the treatment of disease in your future career.

The causes of neuralgia will comprehend the influences just referred to, and, in addition, cold externally applied—as for example, a draught of air, and there is perhaps no more frequent cause; certain poisons, such as lead and syphilis; the rheumatic and gouty diathesis. With regard to the influence of lead in producing neuralgia, certain authorities deny the neuralgic character of lead colic, although the careful observation of a few cases of this disease will, I think, demonstrate most completely, that it belongs to the category of true neuralgias. The same authority who denies the neuralgic character of lead colic, admits the existence of lead palsy; it would seem no more than consistent to infer corresponding effects upon the different tracts of the same nerve from the operation of a common cause.

Neuralgias may be still further classified topographically into superficial and visceral; the first of these comprises those involving the superficial nerves, and the other, the nerves supplying the various internal organs.

Of superficial neuralgias the most important are:

1st. Those of the fifth nerve, and its various subdivisions.

2nd. Cervico-occipital neuralgias, involving the first four pairs of spinal nerves, that is to say, the posterior roots and ramifications of the first four pairs.

3rd. Cervico-brachial.

4th. Intercostal.

5th. Lumbo-abdominal.

6th. Crural.

7th. Sciatic.

The neuralgias of the fifth pair constitute the most important group. The exposed situation of the branches of this nerve, ramifying as it does over the face, seems to render it peculiarly obnoxious to some of the most frequent causes of this disease, and its intricate connections with the various cephalic ganglia of the sympathetic subject it to the influence of all the changes incident to digestive and nutritive functions.

Of the neuralgias of the fifth pair, those of the first or ophthalmic division are perhaps the most important and common, and I think the most troublesome. They may be designated according to the nerves affected, as supra-orbital, trochlear, palpebral, nasal, and ocular, and these as well as all others appear to have their origin in certain foci; these foci of pain are the points at which the nerves emerge from the bones and approach the surface. In the first of these the pain is located over the eyebrow, involving the supra-orbital branches of the ophthalmic division of the fifth pair. In the nasal, the pain is perceived at the point of emergence of the nasal nerve from the bone near the junction of the bone with the cartilage. Tenderness to the touch at these foci, and at other points along the course of the affected nerve, and great increase in the pain resulting from pressure upon these points, have been insisted upon by Valleix, as diagnostic of true neuralgias. This is disputed by other writers, who deny the existence of the tenderness. This, gentlemen, is one of the instances of the "disagreement of doctors." They are both right and both wrong, in accordance with the period of the disease at which the observation was made. My own experience with neuralgia has been somewhat extensive, and in the highest degree practical, and I therefore speak with less hesitation. These painful points, "points douloureuses" of Valleix, are not usually to be detected in recent cases of true neuralgia. In long standing cases, however, it is quite common to find tenderness

at certain points along the course of the affected nerve, more especially at the points of emergence of the nerve from the bone, above referred to. There is good reason, however, to believe that this tenderness is due to a low degree of inflammatory action in the tissues contiguous to the nerve, as it usually persists for a certain length of time after the cessation of the neuralgic pain. In recent cases it is not uncommon to find that pressure firmly applied will diminish the painful sensation, apparently by intercepting the transmission of morbid, or perverted, sensations to the sensorium. Of the neuralgias of this, the first or ophthalmic division of the fifth pair of nerves, the most important is that termed, by Anstie and others, trochlear, and by Valleix and the older French authorities, migraine, hemicrania, and by its unfortunate victims, sick headache.

I will give you a description of this fearful malady, drawn from a large number of clinical observations, and which you will find to be so accurate, that should you ever suffer from an attack, you will recognize it from the description. The attack usually begins in the early morning, the patient being awakened from sleep by an uneasy sensation about the head, sometimes not amounting to pain, and sometimes even a slight dull pain at the trochlea or groove upon the inner portion of the superciliary ridge. A little later he is attacked by rigors, coldness of the extremities; and of the whole surface, the fingers appearing shrivelled and shrunken at their extremities. There is at this time frequent and uncontrollable yawning or gaping; the countenance becomes pale and shrunken; the eyes seem to sink into their orbits; the conjunctivæ become pale and the pupils contracted. The pulse becomes contracted and wiry, and the respiration sighing. The pain has by this time increased to a frightful degree of severity, radiating from its initial point above referred to, over the corresponding half of the forehead, and extending about half the distance from the frontal to the parietal protuberance, but never passing over these limits upon one side. Unlike most forms of neuralgia, hemicrania is occasionally double, affecting both sides of the head alike, although never commencing in both at the same time, the second side becoming involved after the disease has reached its maximum of intensity upon the other. Sometimes, moreover, the disease migrates from one side to the other, ceasing altogether in the side first attacked, soon after its commencement in the second.

The disease is accompanied throughout its course by more or less nausea, with great distress in the epigastrium, frequently by retching, and often by vomiting, which may continue with great violence for ten or twelve hours.

As these attacks may be often preceded by some imprudence in diet, it has been supposed, not unreasonably perhaps, that they are caused by dyspepsia, and hence the hope of relief by means of the vomiting, is indulged in; but the hope is illusory; vomiting brings no relief, indeed in many cases appears to aggravate the pain. In truth, dyspepsia is not the cause, but only an associated result with the neuralgia of a common cause, nervous exhaustion.

Exhaustion of vaso-motor power, is an extremely frequent precursor of this form of neuralgia, and may be itself the result of over fatigue, either mental or bodily.

The second or superior maxillary division of the fifth pair of nerves, has also its foci of pain, corresponding exactly with the points of emergence of the various branches of this division, from their bony canals, viz.: the infra-orbital, the malar, the superior labial, and the palatine. The latter is rare; I have seen but one case, which was, however, of great intensity.

So of the inferior maxillary division; there are painful points, upon the inferior dental nerve, the lingual and the inferior labial.

Some authors speak of a focus of pain a little above the parietal eminence, as the most common of all in this division. I have observed it, but not so frequently, as many others.

I mentioned above that vaso-motor exhaustion was a most common precursor of this form of disease. The immediate effect of this is dilatation of the vessels supplying the nervous centres, and at the same time contraction of the superficial vessels, indicated by coldness of the surface.

The termination of these attacks is usually marked by sudden perspiration, and a copious secretion of limpid urine.

The second group of neuralgias to which I have referred, as already mentioned, involve the first four pairs of spinal nerves, *i. e.*, their posterior roots, and are perceived in the triangular space included between the margin of the lower jaw, the sterno-cleido mastoid muscle, and the median line of the neck, also in the parotid region and space behind the ear.

The cervico-brachial neuralgias have been mapped out topo-

graphically by Valleix, whose classification has been followed by the principal later writers, into those of the lower part of the back of the neck, and lower cervical vertebræ; the axillary, in the hollow of the axilla; the scapular, corresponding to the angle of that bone; another, where the cutaneous branches of the circumflex nerve emerge through the deltoid muscle; another, where the musculo-spiral sends out its cutaneous branches, about three inches above the elbow; the median cephalic, at the bend of the elbow; the superior ulnar, at the internal posterior side of the elbow; the inferior ulnar, just above the annular ligament of the wrist; and lastly, the radial, at the lower external portion of the forearm. The fingers are frequently affected by severe and troublesome neuralgias.

The points at which pain is usually perceived in the next division of neuralgias, or dorso-intercostal, are the intervertebral foramen, near the sternum, and about the middle of the intercostal space, that is, intermediate between the first two. Pain is frequently developed in this latter point, immediately under the breast in women who have been debilitated by excessive lactation, by leucorrhœa, or other forms of uterine disorder; while neuralgia of the breast itself is by no means uncommon. In this form of the disease, the pain may be aggravated by inspiration, or by cough.

In dorso-lumbar neuralgias, the painful points will be found about the middle of the crista ilii, an abdominal point in the hypogastric region; another at the point of emergence of the spermatic cord, and another in the scrotum. Neuralgia of the penis is not uncommon.

Crural neuralgia, involving the superficial branches of the crural nerve, supplying the anterior portion of the thigh, is described by authors as very rare. I have seen but one case, about eight years ago.

The last group of external neuralgias to which I shall call your attention, is sciatica, one of the most frequent forms of all, and also one of the most obstinate and painful. This form is rarely found to exist in young persons, and emphatically belongs to the neuralgias of the period of degeneration, the subjects being old in constitution, if not in years; it is often associated with atheromatous deposits in the arteries, with arcus senilis, and with other evidences of retrograde metamorphoses of tissue.

In common with all forms of neuralgia, involving spinal nerves

proper, sciatica manifests itself in the posterior, superficial, muscular, and cutaneous branches of the nerve implicated. The whole spinal column is rendered tender from this cause, and what is known as spinal irritation, frequently misleads those unfamiliar with it, into the error of suspecting grave lesion of the cord itself. The most prominent location of the pain of sciatica, is at the point where the nerve emerges from the pelvis; there is one also at the head of the fibula, in the course of the external popliteal nerve; others behind the external and internal malleoli; and still another, which I have not seen mentioned by any author, but which has occurred with great severity, under my own observation, upon the inner margin of the great toe. So much, gentlemen, for the topography of neuralgia of the external or superficial nerves. Something may be said, however, with regard to its complications.

These are, first, with motor nerves and their functions, manifesting themselves by convulsive or reflex movements, most apparent in the muscles of the face, in what is called spasmodic tic, or by Trousseau, tic epileptiforme, in the spasmodic contractions of the muscles of the face and of the eyelid, sometimes also of the extremities.

Another complication, and which seems to have only recently attracted the attention of observers, is with the trophic branches of the ganglionic nervous system, and is manifested by the occurrence of cutaneous eruptions; the most marked of which is herpes in its various forms, and of these more especially herpes zoster, or zona, commonly known as shingles, covering, with its vesicles, the area receiving its innervation from the neuralgic nerves, and, according to some authorities, marking the decline of the pain. This is, however, not always the case, the pain frequently persisting during the continuance of the eruption. I have a patient subject to attacks of herpes, periodically, who can foretell the approach of the eruption twenty-four hours in advance of its appearance, by the neuralgic pains which invariably precede it.

ARTICLE V.—*Ulcer of the Rectum and Anus.* By JNO. E. OWENS, M.D., Surgeon St. Luke's Hospital.

A mere description of ulcer of the rectum and anus, at first thought, seems somewhat presumptuous. Meeting, however, yearly, in hospital and private practice, with a certain number of cases, which have been treated by different medical gentlemen with suppositories, ointments, injections and caustics, unsuccessfully one need scarcely say, a few words devoted to the above subject may not be out of place.

Popularly, the term "piles" is used to designate almost every disease of the anus and rectum, and pain there located. Being too frequently diagnosed "neuralgia," the existence of an irritable ulcer is overlooked, for want of a thorough examination. I say *thorough* examination, because the ulcer, being occasionally no larger than a large pin head, or small pea, the case may escape a correct diagnosis by anything short of a very careful exploration of the part. One accustomed to look for and treat this affection, must frequently be amazed, no less by the fact that such intolerable suffering should originate in a disease so insignificant in extent, than by that of the prompt relief from pain, and the rapid cure effected by a proper performance of the requisite operation. This variety of ulcer is situated partly within the rectum and partly within the anus.

In order to make a satisfactory examination, the bowels having been previously well evacuated, the patient must be anæsthetized, and placed in a good light. Under these circumstances, with the use of Sim's speculum, the rectum may be explored as far as is necessary. Having obtained the patient's consent to any necessary operative procedure, the examination and operation may be made at one ætherization. There is no protrusion at the anus, in the disease in question, unless as a complication; but there is, in all cases, a slight purulent discharge, and occasionally a few drops of blood trickle away. The quantity of the latter is much less than that accompanying hæmorrhagic piles. Pain in passing the contents of the bowels, is the prominent symptom. This is peculiar and striking, and instead of diminishing, at the cessation of the act, increases in severity, and continues for a period varying from some minutes to five or six hours, and perhaps longer. In uncomplicated

cases it then ceases, and there is no suffering until the bowels are again moved, when there is a repetition of the suffering. The symptoms are progressive, and Nature, unaided, under the circumstances of the location of the ulcer, is powerless to effect a cure.

As far as my experience goes, the ulcer is situated on one side, far back towards the posterior segment of the anus. In a large proportion of cases of ulcer of the anus and rectum, a small excrescence is visible externally, and the ulcer is seen situated at the base of this little tumor, which, in consequence, becomes a sign of great importance. The disease originates in a variety of ways. In a large majority of cases, some breach of surface is produced by straining, and in consequence of the periodical disturbance of the part, the ulceration increases, and assumes a definite form. In other cases, the disease originates in a pile situated at the verge of the anus. The pile, in consequence of pressure and friction, inflames, becomes excoriated, and finally ulcerates. The ulcerative process extends into the rectum by continuity of tissue. In other cases again, the disease arises from the abscess that results in anal fistule, or spreads from the rectal orifice of the fistule. In the latter class, the ulcer begins where the fistule ends, or, in other words, it radiates from the internal orifice of the fistule, and bears the same relation to the fistule that a fan does to its handle. In such cases, if the fistule is superficial, an operation must be performed, not only for the cure of the fistule, but likewise for that of the ulcer, as in the following case:

Case 1. A gentleman, aged fifty-one years, had suffered from hæmorrhoids since 1849. During the same year, an anal fistule supervened, through which, at times, blood squirted, whilst the patient was at stool. In 1861 he received some palliative medical treatment for hæmorrhoids. During the present year, the gentleman consulted me on account of an agonizing pain located at the anus. He had been for years a great sufferer. The pain commenced whilst at stool, and grew so severe after the act of defecation, that frequently the patient was obliged to take his bed for several hours. In consequence of this severe periodical distress, the patient was often obliged, from sheer prostration, to disregard engagements, both of business and pleasure. The anus was constantly moistened with a discharge more or less purulent. The

character of the pain indicated ulcer of the anus and rectum. The bowels having been evacuated, the patient ætherized and placed in a good light, the fistule was at once discovered, but a cluster of hæmorrhoids in a great degree obscured any further view. The piles were at once ligated, and the fistule laid open upon a grooved director. This seemed sufficient for the time. Between two and three weeks later, after the piles had sloughed off, and the inflammatory swelling in a considerable degree subsided, the patient was again ætherized, and an ulcer of the size of a dime was discovered at the site of the inner orifice of the fistule. An incision, commencing a little above the ulcer, was carried through it and a portion of the fistulous track, dividing at the same time the greater part of the sphincter ani muscle. The pain, which was as severe, and as characteristic of ulcer of the rectum and anus, subsequent to the first operation as before it, now at once subsided, and the patient found himself, in feeling, a new man. After the first operation, morphia, in half and three-quarter grain doses, was administered, for the relief of pain. After the last operation, morphia was only used to lock up the bowels. Fistulæ, complicated with ulcer of the anus and rectum, heal very slowly, and sometimes not at all, unless the underlying muscular fibres of the sphincter ani muscle are incised. At the time of the last operation, two polypoid growths were removed from the rectum. These latter originated, probably, in hæmorrhoids, and acquired their peculiar shape from pressure of the sphincter muscle, which becomes highly developed in cases of ulcer. At every stool these growths were extended, and it was always with more or less difficulty that they were replaced.

The following are typical cases of ulcer of the anus and rectum :

Case 2. . A gentleman, near the middle age of life, consulted me for what he imagined to be piles. A few drops of blood occasionally trickled from the anus, which was usually moistened by a purulent discharge. He had for months felt more or less distress at the anus, but, following every act of defecation, came the characteristic gnawing and paroxysmal pain, which made life a burden. The patient having been ætherized, a somewhat excavated and irregular ulcer, about the size of a silver quarter, was discovered. The ulcer commenced at the muco-cutaneous margin of the anus, and extended into the rectum. A free incision

was made through the ulcer and sphincter ani muscle. The patient's sufferings ceased on the day of the operation, and there has been no return of them. In forty-eight hours he was able to leave his bed, and to attend, in a certain degree, to his business.

Case 3. A young married lady had suffered from constipation during pregnancy. Whilst in that condition, and after the birth of her child, defecation was accomplished by means of considerable voluntary tenesmus. There was a scanty discharge of pus, and occasionally a little blood. The act of defecation, attended with some smarting and burning, was followed by great distress, located at the anus. This lady, for the most part able to attend to her household duties, was prostrated with pain for several hours after going to stool. The ulcer, together with the underlying muscular fibres, was incised. The characteristic pain was no longer felt, and the patient made a rapid recovery.

Case 4. A young lady, in the summer of 1871, consulted me for a most intolerable pain of the rectum. She had suffered agonies for several months. Pain of a moderate degree was in this case continuous, but following the act of defecation, after a very short interval, an almost unbearable pain, located at the anus, seized the patient, and continued for several hours, after which it subsided in a certain degree, to return at the next act of defecation. An angry-looking, irregular ulcer, together with the muscular fibres of the sphincter, was incised, and the ulcerated and cut surfaces freely cauterized. The operation was followed by agonizing pain, that could only be subdued by chloroform. I attributed this to the cauterization of a very angry-looking sore. The patient made a good but rather tardy recovery.

Sim's speculum was used in each case. Cauterization, as an adjunct, is unnecessary in most if not all cases. The ulcer is situated on the muscular fibres of the sphincter ani muscle. These muscular fasciculi are thrown into an unnatural contractility during, but especially immediately following, every act of defecation; hence the severe paroxysmal pain by which the affection is characterized. For the cure of this disease, the French surgeon, Boyer, and those who imitated him, were induced to make a complete division of the sphincter ani. This operation succeeded in effecting a cure, but it was reserved for an English surgeon (Copeland) to show that a simple incision through the ulcer, commencing a little above

it, and including the superficial layers of muscular fibres underlying it, is sufficient. The operation promptly arrests the pain, by cutting short the undue muscular contractility of the muscular fibres lying at the bottom of the ulcer. The production of an atonic state of the sphincter, by forcible dilatation, has been recommended, but the operation is now considered unsurgical. In several cases I have both incised and used forcible distension, but the former alone is sufficient. The after-treatment is simple, viz. : keep the bowels closed for four or five days, bathe the part for the sake of cleanliness, and, finally, use some laxative, to a moderate extent, in order that the contents of the bowels may do no violence to the wounded bowel and anus.

ARTICLE VI.—*Therapeutical Notes.* By THOMAS A. ELDER, M.D.,
Mifflintown, Pa.

Sitting in my office this evening, looking over the JOURNAL—ever pleasant and profitable entertainment—for 1870, I noticed a "selection" upon the use of the sulphites in the treatment of tonsilitis, which I had read with a great deal of interest on its first appearance in the JOURNAL. And it occurred to me to say to your readers that my experience with the

SULPHITES IN TONSILITIS,

agrees entirely with that of the writer of the above named selection. During the last two years tonsilitis has prevailed here very extensively, almost everybody being affected with it. Its symptoms it is unnecessary to record, being familiar to all the readers of Flint's Practice. Suffice it to say that it is ushered in by general languor, aching of back and limbs, headache, congestion and tumefaction of tonsils, with congestion of the half-arches and fauces, and fever; and the temperature in many cases is high, especially in children, ranging from 103° to $106\frac{1}{2}^{\circ}$, as tested by the thermometer in numerous cases.

I have not met with a single case which the sulphites, administered in sufficiently large and often repeated doses, would not

promptly relieve and cure. The doses which I use are those recommended by Dr. Tyrrell, gr. xx to xxx, repeated every hour, for an adult, and correspondingly large doses for children. The fever is generally dissipated in twelve hours—rarely continues twenty-four. The soreness of throat, headache, etc., are generally as promptly relieved, and forty-eight hours are sufficient for a cure. In children, when saturated, they have produced sweating, and the peculiar cadaveric hue of sulphurous acid fumes.

When the disease has progressed to the stage of exudation—when the shoe-peg points begin to appear, or later—I have never met with a case which I thought was benefited by the sulphites. I am then accustomed to rely upon a prescription of Prof. Miller, for diphtheria, which has almost invariably given prompt and permanent relief.

" R. Morphia Muriat.,	-	-	-	-	-	gr. ij.
Acid, Muriat., dil.,	}	-	-	-	-	aa dr. ij.
Tr. Ferri Chloridi,	}	-	-	-	-	
Syrupi,	-	-	-	-	-	oz. ss.
Aquæ destillat.,	-	-	-	-	-	oz. ij.

M. Sig. Dose: A teaspoonful three or four times a day after water."

(I quote from memory.) The above to be modified according to circumstances.

As to the use of the

SULPHITES IN SCARLATINA,

I have had but two cases, which I think were undoubtedly scarlet fever, in which I had an opportunity of exhibiting them in the first stage.

The first case was that of Beckie P., æt. about 9 months, whose elder sister was and had been suffering from a very severe attack of scarlatina, in which suppuration of both tympani took place, with discharge on one side through the mastoid process, and in which total loss of hearing resulted for a time, followed by entire restoration. Little Beckie was a lively, playful, good humored child, and had free access to the room in which her sister lay sick. One morning her mother noticed that, instead of her usual life, activity, and frolic, she lay in her cradle with great disinclination to be disturbed, and some fever, but thinking it a mere "brash," did not call my attention to her. She remained in this condition

until I called in the evening, when I found the following symptoms: skin, hot and dry; pulse, 140, full and bounding; throat, congested and swollen; temperature, $106\frac{1}{2}^{\circ}$; no rash. I ordered her gr. v of bi-sulphite of soda, every hour, in a tablespoonful of water. The next morning her temperature was $100\frac{1}{2}^{\circ}$. She had no more fever. I continued the remedy for forty-eight hours. She never had a symptom afterwards.

The second case was that of Mary W., æt. 14 months, a pale, delicate, but lively child, who had suffered from occasional attacks of intermmittent fever through the summer. Her mother took her to bed apparently as well as usual. About eleven o'clock she felt of the child and found she was very warm, and on striking a light, discovered that she was very red all over. Not getting better, at one o'clock they sent for me. On arriving I found the child sleeping, but with occasional muscular twitchings; the skin hot, swollen, a perfect scarlet from head to foot, and apparently tender to the touch; throat swollen and inflamed. While making the examination she went off into a convulsion, which lasted three or four minutes. I ordered ice to the neck, and gave soda bi-sulphite, gr. vij, every hour. By morning the redness had left the skin, when a distinct rash, not very bright, was visible. The fever had somewhat abated, and at 5 o'clock P. M. she was entirely free, and had no return. The treatment was continued for forty-eight hours, when the rash had entirely disappeared. There were no further symptoms at that time. About two weeks afterward the sub-lingual, afterward the right sub-maxillary, and finally the right parotid gland became swollen and inflamed, with the formation and discharge of two small abscesses over the sub-maxillary. This inflammation has continued until the present time, now some six weeks, but it is subsiding.

If I am right in my diagnosis of these two cases, then I think we have a sure abortive of that dread scourge of child-life, scarlatina. I use the sulphite and bi-sulphite of soda, preferably the latter, on account of its not acting upon the bowels. I believe the main reason why they have been found inefficacious in many hands, is, that they have not been used aright. Let your readers take a "new departure" in their use, and I feel assured that, unlike our beloved democracy, they will not come to grief.

Again, in the same volume of the JOURNAL, I find an article on

BROMIDE OF POTASSIUM IN LEUCORRHEA,

by Dr. A. H. Kinnear, of Metamora, Ill., and it reminds me of a case I had a few weeks ago.

Mrs. S., æt. about 38 years, of nervo-sanguineous temperament, nursing her first live child, now 10 months old, called me in on account of sleeplessness in herself and child. I was unable to discover any cause for it, except it might be in her natural nervous temperament, heightened by her "new relations." I prescribed potass. brom., gr. x, before each meal, and on going to bed. In four days she slept well. There was also improvement in the babe's sleeping. About two weeks afterward she called me in again, and very privately, quietly, and confidentially. (I am a young unmarried man, and the former had been my first visit to the house) told me she had such a "terrible flow of whites," especially at night, when she had been on her feet much during the day. It troubled her a great deal, so that she had to get up several times during the night to clean herself, so as to have any comfort. Had always been a hale, hearty woman, always regular, but had aborted at various stages of pregnancy, six times, but had not suffered any evil effects therefrom. Had never had "whites" before the birth of her child, but had had it ever since. Remembering the cases of Dr. Kinnear, I concluded to try the effects of the bromide, so ordered gr. xv, three times a day, and with the most happy effects, for in two weeks time she was entirely free from it, and quite happy.

As a sequel to the above case, I might relate that shortly afterward I prescribed the bromide in another case, but of just the opposite temperament, and rather poorly nourished, but it is needless to say, without any benefit, rather the reverse. Tr. ferri, gtts. x, and tr. nucis vom., gtts. v to gtts. x, three times a day, did much better.

MORAL.—As everywhere else in medicine, so here, the multiplication table will not work.

AMMONIA IN SNAKE-BITE.

On the morning of Aug. 6th, 1872, Wm. R., Jr., colored, in getting out of his bed, which he occupied in common with his father and *their* wife, in their little hut at the foot of the mountain, was bitten by a snake—a rattlesnake or copperhead—was not certain which,

on the back of the hand between the thumb and first finger. He sent Alice to town, four miles, for me, but not finding me, she returned, taking with her a pint of whisky, which they drank. The whisky having no effect on William, though it had on Alice, and the hand and arm swelling rapidly, and becoming very painful, he concluded to come to town and see me himself. He arrived about 5 o'clock P. M. It was with difficulty that he could get up stairs to my office. His hand and arm presented such a sight as I hope I shall not soon see again. They were swollen to such a degree that one would suppose the skin must burst; the skin seemed thick and hard like heavy leather; the pulse was small, weak, rapid, about 130, and very irregular; the breathing labored; the arm very painful; he was weak and faint. I injected with the hypodermic syringe, m. xv, of a solution composed of equal parts of aq. ammon and aquæ puræ, into the neighborhood of the bite, and m. x into the well arm. Within twenty minutes it showed its effect. He could feel it going all through him, especially at the point of injection. The pulse came down to about 80, doubled in strength, and became regular. Within an hour, the pulse growing somewhat more rapid, and weaker, I injected m. x more into the well arm, and at the same time, the same quantity into the affected arm. I ordered him spts. ammon. arom., dr. j, in water, every third hour. He then started on his homeward journey, and succeeded in going a mile, when he had to lie by for the night, being too weak to go farther. The next morning I saw him at the house in which he had spent the night. I found him in very much the same condition in which he was when he came to me the day before. The arm had become painful again, the pulse rapid and weak. I injected him again twice, in all about m. xx, of the above solution, and with the same result. On the evening of that day he succeeded in getting home, having walked all the way. The next day, toward evening, I saw him again. He had suffered but little pain, the pulse was regular, full and steady, the arm was diminishing in size, the appetite, which I neglected to mention was almost *nil*, improved. I gave him a brisk cathartic, and ordered him to continue the aromatic spirits of ammonia in half teaspoonful doses every third hour. In ten days the arm had regained its usual dimensions, some stiffness and soreness of the muscles being all that was left to remind him how near he

had been to death. And being unable to work, he, and *their* wife departed for a more sunny clime, even "My Maryland," whence returning for winter quarters, I hope I may receive the reward of my services, or he be bitten by another "copperhead."

And now a word in regard to

CHLORAL HYDRATE,

and I have done.

On Oct. 20th, 1872, Sabbath evening, I was called in to see J. M. B., a young man less than 21 years of age, of very fine mind, and of superior mental attainments, who was suffering with delirium tremens. He had been drinking more or less all through his academy and college course, and it finally culminated in this attack. He had only given manifestations of the delirium but a short time before I was sent for. He was rather quiet, but the illusions were quite distinctly marked. He would say very quietly "there they are," but occasionally crying out in terror, and turning his back, would strike out with his hands at the demons that were approaching him. His eyes were staring, the pupils very widely dilated, the whole eye protruding, and he could not wink; the pulse was rapid, strong and bounding. I gave him hydrate chloral, gr. xxij, in equal parts of syr. tolu, and aq. menth. vir. About twenty minutes after he had taken it he could move his eyelids a little, the pulse was somewhat slower and weaker. A half hour after the first dose, gave him another: still more improvement; could wink; the demons had departed, never more to return. In three-quarters of an hour gave him another dose, and repeated it twice more, and at midnight he was put to bed, when he slept nearly all the remainder of the night. Next morning he was of course somewhat nervous and weak, and very solicitous to know whether "they" would come back. I assured him that they would not. I prescribed potass. brom., gr. xv, every third hour through the day, and the next morning he was able to go away with his father, who on learning of his condition, had come to take him home. In this case the chloral acted like a charm.

ARTICLE VII.—*Artificial Placental Respiration.* By J. N. HYDE, M.D., Secretary Chicago Society of Physicians and Surgeons.

At a meeting of the Chicago society of Physicians and Surgeons, held November 12, 1872, a paper, which was avowedly a suggestion only, was read by Dr. John Bartlett, of Chicago, entitled, "*Artificial Placental Respiration.*"

Dr. Bartlett suggested in cases of extraction or extrusion of the after-birth before the child, the following practice: *Directly after* the detachment of the placenta, immerse it in the fresh warm defibrinated blood of some animal, as the sheep. Change the blood as often as practicable and aerate it by means of oxygen gas.

Dr. Bartlett considered the statements going to show that the life of the fœtus was not momentarily dependent upon the purification of its blood, through contact with the maternal circulation, too numerous to be disregarded. Three classes of cases in which the fœtus had, for a considerable time, survived a separation from the maternal circulation, were cited. In one class, the child maintained life in the dead body of the mother. In a second, the fœtus survived separation from the mother, its relations with the after-birth *and membranes* being retained. In a third class, the child remained alive in utero, while the placenta was without the mother.

The circumstances and conditions under which the fœtus may, for a considerable time, continue its life after disruption of its placental relations to the mother, seemed to be such as left the after-birth in a situation suitable to the performance of its *branchial* functions.

Dr. B. proceeded to point out by what simple processes of absorption and exhalation the embryo, in the lower forms of vertebrata, and in the earliest stages of embryonic existence in man, was provided with nourishment. He stated that the relation of the placenta of the chick to the albumen of the egg—its immersion in a fluid through which it absorbed oxygen and exhaled carbonic acid—was exactly such as he proposed to establish between the fœtus and the blood in which the extruded placenta was to be immersed. In regard to the probabilities of the simple immersion of the placenta in arterial blood, proving adequate to the temporary

respiration of the fœtus, the essayist called attention to the rapidity with which absorption took place through even the smallest abraded surfaces. The placenta presented fifty square inches of serous, and an equal extent of exposed vascular, surface, through which the necessary interchange of gases might take place. In reference to the anatomy of the placenta, the language of Owen was quoted: "The placental intercommunication is carried on by the contact of the foetal capillaries with the maternal *extravasated* blood." In this expression Dr. Bartlett regarded his suggestion as foreshadowed.

Artificial placental respiration would prove available in those cases of placenta prævia, in which the after-birth is detached, whether by the efforts of the uterus, or the accoucheur. It might also offer an additional chance of resuscitation to the asphyxiated child, when the placenta is already delivered. On account of the difficulty that might be experienced in obtaining the blood of an inferior animal just when needed, Dr. Bartlett suggested that the addition of phosphate of soda and oxygen gas to water, might render it a substitute. In some cases, the blood escaping from the mother might be employed.

Correspondence.

EDITORS CHICAGO MEDICAL JOURNAL:

Gentlemen—In the November number of your valuable JOURNAL I find that Dr. Etheridge, of your place, reports from the *Vienna Medical Press*, August 18, a so-called victory of Stricker, or, more properly speaking, the Vienna school. That you may judge for yourselves, and on account of the appearance of a translation of "Stricker's Manual of Histology," I give you a translation of a correspondent, writing from Leipzig, the 7th of September, to the *Allgemeine Wiener Medical Zeitung*:

"Stricker wanted to show the results of his microscopical investigation on the inflammation of joints, and tried to base his theory on various preparations, consisting of tissues of the cornea

rendered by traumatic influences artificially inflamed, and from these tissues Stricker wanted to show that they divide, reproduce, become amœboid, etc. But as microscopical authorities examined the preparations, serious doubts were expressed as to the correctness of Stricker's view. Especially did he fail to prove that the cornea cells, and the corneal tissue, underwent such transformations as he affirmed. The whole discovery made the impression of a doubtful, not clear, statement. Was the corneal tissue really changed, as Stricker affirmed? It was not proved beyond a doubt.

"Cohnheim treated the whole investigation in a very haughty, scornful manner, and offended, with his arrogance, the whole Vienna school. Even *Rindfleisch*, whose judgment is authoritative, was unable to give a favorable opinion about Stricker's investigations.

"Especially was the method used for injection not an exact one, and not at all satisfactory. With a more careful manipulation, the tissue of the cornea could have been shown to be intact, and with this assertion the whole theory of Stricker crumbles to pieces.

"This was the impression it made on the audience: if it had not been for Cohnheim's arrogance, Stricker's fiasco would have been more felt. Some of Stricker's disciples and friends, mostly military surgeons, tried to mask the fiasco by shouting and crying, and dispatched a telegram to Vienna, stating a victory for Stricker, only to throw sand in the eyes of the medical world; *but the learned men will, in spite of all this manœuvering, regard all the works of Stricker with distrust.* We Vienna men can only be sorry that we did not find a better representative of our school, having an abundance of great men who have done a good deal without boasting of it."

In all my German medical journals (and I keep about a dozen) Stricker is severely criticised, and we on this side of the water would do well not to trust too much in his investigations, as real authorities, like Virchow, Rindfleisch, etc., do not put any reliance in his works.

Respectfully yours,

DR. CARL PROEGLER.

Selections.

Parturition not Necessarily a Painful Process: With some Suggestions as to the Hygienic Treatment of Pregnant Women, as a Means of Mitigating the Pains of Labor. By JOHN STAINBACK WILSON, M.D., Atlanta, Georgia.

The proposition that parturition is not necessarily a painful process, will doubtless strike many with astonishment, when viewed in the light of preconceived opinions, which are apparently confirmed by daily observation. Yet, I propose to demonstrate the position—first, physiologically; second, practically or experimentally; and, finally, I will conclude with a notice of the Biblical or theological objections—founded, as I conceive, on an erroneous interpretation of the “curse” inflicted on woman.

My first or physiological argument is, that the nerves of the uterus are derived almost entirely from the organic or sympathetic system, and, therefore, that there is nothing in the nervous structure of the organ to render it highly sensitive when in a normal condition.

Tarnier and other anatomists tell us that the nerves of the uterus are derived from the great sympathetic—some proceeding from the renal, and others from the hypogastric, plexus, with some fibres from the sacral plexus.

Robert Lee, Rendu and Boulard have positively demonstrated that “the whole body of the uterus receives the nerves of organic life exclusively, whilst the nervous apparatus of the neck alone has communications with the spinal nerves.”

Carpenter tells us, in his Physiology, that “it is in virtue of the connections of the sympathetic with the cerebro-spinal system, that the parts which are solely supplied with nerves from the former are capable of transmitting sensory impressions to the sensorium.” This is asserted of the parts in a normal physiological condition, as the womb is, or should be, in gestation. But the admission is of course made, that parts in a morbid state manifest acute sensibility, the impressions in these cases “seeming (in the language of the writer) to be propagated further than usual—that is, to the sensorium—by virtue of their greater potency.”

The conclusion, then, is inevitable, that pain in a part supplied exclusively by the sympathetic system of nerves is no part of the *physiology* of a part so supplied, but is a morbid phenomenon, requiring a strong or long continued impression for its manifestation. The body of the womb, then, being exclusively supplied with nerves of organic life, pain in the body of the womb, when

healthy, can form no part in the normal physiological contractions of an uncomplicated labor. Labor is a physiological process; pain does not and cannot belong to physiology, but to pathology. It is a misnomer—a perversion of language—to speak of the physiological pains of parturition. Some attempt to evade this incontrovertible position by the adoption of a fanciful “pathological physiology,” as Tarnier, the annotator of Cazeaux, calls it. This writer considers the pains of labor as identical with cramps in the muscles of animal life, and spasmodic contractions of the bowels, bladder, etc. But colic pains are certainly not physiological, but pathological; and if the process of parturition is a strictly physiological one, as all admit, pain, and especially pain in a part endowed with so little sensibility as the body of the womb, must be morbid, and not a normal physiological manifestation. And pray, where else, in the broad domain of physiology, do we find the strange admixture, the painful *physiological* action, which is invoked in explanation of the pains of parturition?

It can hardly be denied that the teachings of all physiological manifestations in other parts, and the nervous structure of the body of the uterus, supplied as it is by the organic system of nerves exclusively, forbid the idea that this part is the seat of pain in the normal contractions of a healthy womb.

But it may be objected, that the argument does not meet the difficulty as to the neck of the os, these parts being supplied, in part at least, by spinal nerves. But admitting that the small supply of the spinal nerves may endow the os and neck with some degree of nervous sensibility, thus rendering the parts so supplied more susceptible to pain and reflex excitement than the body, yet our daily observation teaches us that the neck and os have but very little sensibility in the healthy unimpregnated womb, and that this is true, to a great extent, of those parts in pregnancy. This position is confirmed by Tarnier and numerous other writers; but it is needless to adduce other authorities, when we know that the womb, in a healthy condition, may be handled roughly, and even cauterized, with little or no manifestation of sensibility; and this in many morbid states.

If, then, there is nothing in the nervous structure of the womb to account for the pains of parturition, *how* are these pains produced?

Some writers suppose the pains result from tension of the fibres of the neck; others from pressure on the nerves distributed to the internal surface of the womb; others, again, suppose that they arise from compression of the parts contained within the pelvis, and especially the nervous plexuses; while one writer, already quoted, makes the pains of labor identical with the spasmodic pains of colic; and finally, M. Beau says, that the pains are not in the uterus, but in the lumbo-abdominal nerves.

It will be noticed that *pressure* in some form is regarded as the source of pain in all the theories adduced, unless Tarnier's spasmodic theory be an exception. According to the explanations given, labor is regarded as a mere mechanical act—as the forcible passage of a body through a narrow passage, without considering the *vital* condition and adaptation of the parts through which the passage is to be made.

While pressure doubtless has much to do with the pains of labor, it cannot be the sole, or even, in itself, the principal cause of those pains. It is well known to all obstetricians, that, as Cazeaux says, the pains of *dilatation* are excessive in some women, before the presenting part of the child presses on the uterine orifice. In these cases, we must assume, with the writer quoted, that the pains result from pressure on the almost insensible nerves of the body of the womb; or, I think, we should adopt the much more reasonable conclusion, that a degree of pressure which, in a healthy condition, would be scarcely felt, is greatly aggravated in its effects by a *morbid irritability* of the nervous system in general, and of the sensitive nerves of the os uteri in particular—the difficulty in the os being, in the cases referred to, and in most others, not the *pressure per se*, so much as in the reluctant yielding and stretching of parts deficient in that vital expansibility which certainly belongs to the healthy os, perinæum, and all the soft parts concerned in parturition, and which is certainly necessary for the easy performance of the act. This *vital expansibility* has much, very much, to do with freedom from the pains of labor. And yet, while all writers admit the wonderful adaption of the foetal parts to the pelvis through which they have to pass, and the wise provisions of nature for the accomplishment of the great work of parturition, still these same writers speak of the act as a mere mechanical one—as the forcible dilatation of ill-constructed parts by a body not adapted to those parts, either in size or shape. Hence, such writers as Desormeaux, Cazeaux, and many others, attribute the dilatation of the os uteri entirely to the wedge-like pressure of the foetal head, or to the forcible and overpowering contractions of the body of the womb acting on the reluctant fibres of the os.

How much more reasonable, how much more consonant with true physiology, is the explanation of the great physiologist, Carpenter. He says: "It is, in fact, in the contraction of the fibres of the fundus and body of the uterus, and in a relaxation of those about the cervix (which relaxation is something quite different from a mere yielding to pressure, and is obviously a *vital* phenomenon that marks a peculiarity in the action of this part), that the first stage of an ordinary labor essentially consists."

Here, then, we have the whole secret of painful parturition disclosed. The dilatation of the os and associated parts is a vital, and not a mechanical, process; the vital properties of the tissues in-

volved are changed by a morbid or non-physiological condition of those parts, and, as a consequence, secretion is checked or arrested, the tissues are rigid and unyielding, the nervous sensibility is greatly exalted, the organic expansibility is held in abeyance; and the result of all this is, that parturition is translated in truth, as well as in theory, from the domain of physiology to that of pathology and mechanics, and violent overpowering force, attended with atrocious and unnatural pains, is required to overcome the resistance offered by parts morbidly irritable, and wholly or partially deficient in vital expansibility. Hence, the cause of the excessive pains of labor may be summed up in a few words, viz.: morbid irritability of the nervous system in general, and of the uterine nerves in particular, with deficiency or absence of vital expansibility, either as a cause or effect of this nervous irritability. The *degree* of pain will of course be proportioned to the nervous susceptibility; and let it be borne in mind that Cazeaux, M. Beau, and many other writers, admit, after all their explanations, that the degree of pain depends more on this *nervous susceptibility* than on the force of the uterine contractions.

Without stopping to specify the various causes of the nervous irritability which so greatly abound in the present mode of living, and which will readily suggest themselves to every physician, I pass on to my second division, embracing the results of my own observations as to the efficacy of means to prevent or greatly mitigate the pains of labor. Several cases will be very briefly reported, and I ask special attention to the *points* embraced in them, as I cannot stop to enlarge on these.

Case 1. Mrs. —, aged nineteen. First labor eighteen hours; expulsive stage about six hours; pains numerous and severe; no preparatory course of treatment; general health good; previous manner of living tolerably good; development good—no malformation from tight lacing, etc. Second labor twenty-four hours; breech presentation; expulsive stage five hours; no preparatory treatment. Third labor fourteen hours; expulsive stage three hours.

All these labors were pretty severe, but were uncomplicated. After the last she had an attack of phlegmasia dolens, followed by ulceration of the womb, with great debility and impairment of the general health, manifested in palpitation of the heart, dyspepsia, and many distressing nervous symptoms. During this pregnancy, and in previous ones, she suffered from most of the multiform "diseases of pregnancy."

In her fourth pregnancy, she was subjected to the hygienic course yet to be mentioned, and escaped most of the ailments of pregnancy, while parturition was effected in three hours from the beginning, with an almost painless expulsive stage of half an hour, the work being accomplished with only three or four contractions.

In her fifth pregnancy, she had the same or even greater immunity from the diseases of pregnancy than in the fourth, under a treatment similar to the one mentioned. In this she was delivered in three hours from the beginning of labor, with not more than two expulsive efforts, and these were attended with scarcely any pain.

In her sixth labor, dilatation was accomplished in twelve hours, by *painless contractions*, and expulsion was effected in twenty minutes, with six strong and almost painless contractions. And this after a non-child-bearing interval of twelve years, during most of which time she had suffered more or less from ulceration of the womb.

Case 2. Mrs. C., aged about seventeen years; primipara; short stature, firm tissues; closely built, but well formed. She was subjected to a preparatory hygienic course, and was delivered in about six hours from the beginning of labor, with a very short and almost painless expulsive stage. So little complaint was made that I hardly knew when the child was born, though in the room all the time; and the patient did not suppress her complaints, for she expressed surprise that her labor was over so soon, and with so little pain. There was no hemorrhage, scarcely a stain—no bad smell nor other disagreeable accompaniment of child-bed.

Case 3. Mrs. S., aged about eighteen; well formed; good general health. First labor; treatment hygienic during pregnancy; labor six hours; expulsive stage short—only one or two contractions finished it, and she expressed herself as feeling scarcely any pain. Moved in two weeks, on cars.

In her second pregnancy, she followed the hygienic treatment, and was delivered in three or four hours from the beginning of labor; expulsive stage about twenty minutes, and almost painless. No accident; recovery good.

In her third labor, she was delivered in three-quarters of an hour from the first pain. In this case, there were but nine contractions in all; seven effected dilatation, and two, which were scarcely felt, accomplished expulsion.

In her fourth pregnancy, she was traveling in a wagon, and could not use hygienic means. In this, her labor was twelve hours long, but other particulars are not known.

Case 4. Mrs. F., aged twenty-five or thirty; good health; well formed; third labor. Reports other labors severe. Treatment in this (the third) hygienic. Labor four or five hours; expulsive stage about half an hour; little pain; no accidents of any kind.

Case 5. Mrs. H., primipara, aged about eighteen; form and general health good, but she had been delicately raised. Treatment as in other cases. Labor six hours; expulsive stage three-quarters of an hour; scarcely any pain; no hemorrhage, or other disagreeable symptom.

These cases need no comment; I will only call attention to some of the prominent points.

The first case embraces six labors—three with hygienic treatment, and three without. The latter were respectively eighteen, twenty-four and fourteen hours in duration, and by no means without pain. The last three labors of the same woman, under hygienic treatment, were almost entirely painless; and two of these were accomplished in three hours, while the other, though occupying twelve hours in dilatation, was unattended by pain in this stage; while expulsion was effected in the marvelously short space of twenty minutes. And this, be it remembered, after a sterile interval of twelve years, as a consequence of grave uterine disease.

The second and fifth cases were primiparæ. These cases will meet the objection that, however it may be with others, *young women must* suffer very considerably in a first labor.

The third case is also one of a first labor; and this was only six hours in duration, and almost painless; while of two others treated hygienically, the labor was three or four hours long in one, and the other only three-quarters of an hour, and in each case almost entirely painless.

The short period for the accomplishment of parturition in some of these cases proves that a long time is not a necessary factor in a safe delivery, but that when the parts are fully prepared—when the vital expansion and the expulsive contractions proceed *pari passu*—the great act of parturition can be effected even in twenty or thirty minutes, with perfect freedom from accidents, and with but little pain.

If further evidence is needed in proof of the position that parturition is not necessarily a painful process, we have it in the numerous examples of absolutely painless labors to be found in the reports of almost every obstetric writer. And again, we have conclusive evidence on this point, and also demonstration of the effects of modes of life on parturition, by comparing the process among women in the different classes of society.

While all civilized child-bearing women cannot be said to be in a state of actual open disease, there cannot be a shadow of doubt that their habits in civilized life tend greatly to beget that morbid irritability and that preternatural susceptibility to pain which have so much to do with the pangs of parturition. We all know the difference between the parturitions of women in civilized and savage life. We are all familiar with the fact that Indian women really have no lying-in; that they "fall behind for a little on their journeys through the forest, deliver themselves, and shortly make up to their husbands, and continue their journey with their offspring on their back." Among the South American Indians, "a mother, immediately on her delivery, takes her child, and going down to the nearest stream of water, washes herself and it, and returns to

the usual labors of her station." And even in civilized life, we all know that the pains and dangers of child-birth are diminished in proportion as women approach plain, healthful, natural habits of living. Those who are in moderate circumstances, who are equally removed from the depressing influences of extreme poverty and the enervating, destructive indulgences purchased by wealth, have easier labors and more speedy recoveries than either of the extremes of society; and the poorest often escape the "primal curse" much better than the pampered daughter of idleness and luxury. Hence, the negro women of the Southern States, who were compelled to lead an active life, and to live on plain food, with minds undisturbed by corroding cares, had, as every Southern physician knows, much easier labors, and were much less exposed to so-called accidents, than their mistresses.

Now, nature being governed by fixed and uniform laws in all her operations, if it can be proved that even one woman, in a natural condition, without the aid of any anæsthetic, has been delivered with little or no pain, the conclusion is inevitable, that parturition is *not* necessarily a painful process. It is admitted that not only one, but many, have been thus delivered. Why, then, may not all healthy, well-formed women have comparatively, or even positively, painless labors by obedience to the laws of health? There is nothing in the anatomical structure of woman to forbid such an idea. On the contrary, I have shown that the nervous structure of the womb is of such a nature as to render this organ peculiarly insusceptible to pain; and while I have not stopped to elaborate the point, all are ready to admit the wise provisions of nature for the expulsion of the fœtus by means of the beautiful mechanical arrangement of the pelvic bones.

But while anatomy, physiology, and numerous facts, sustain the idea that great pain is not a necessary part of normal parturition, the Bible is appealed to as conclusive evidence to the contrary, and the "primal curse" is invoked as an unanswerable argument. I believe in the Bible as a rule of action, as an authority in morals, and as a system of spiritual truths and doctrines; but I do not believe in that mistaken piety which would array the Bible in opposition to every discovery in science. I do not think that this book was ever intended to teach anatomy, physiology, astronomy, geology, or any of the sciences. Yet, it is part of my creed, that there is nothing in the Bible incompatible with the teachings of true science, when the book is confined to its legitimate sphere, and properly understood and interpreted. What, then, of that *curse*—that *dreadful CURSE*—"In sorrow shalt thou bring forth children"? This is often quoted, "*in pain*," etc. But the word sorrow does not necessarily include physical pain, and we might find abundant sources of sorrow for Eve in her mental condition; in the anxieties and gloomy forebodings that would naturally fill her

mind on the birth of a child into a world alienated from God and cursed with the terrible evils of sin. But, not to take advantage of a verbal quibble, I freely admit that many portions of the Bible express, in strong terms, physical suffering in connection with parturition. A few of these may be given: "Fear took hold of them there, and pains, as of a woman in travail." "They shall be in pain, as a woman that travaileth." "Therefore are my loins filled with pain; pangs have taken hold of me, as the pangs of a woman that travaileth." These quotations might be greatly multiplied, for the Bible has many such expressions.

It is admitted, then, that women suffer, grievously suffer, in parturition, and have thus suffered since the introduction of sin into the world; but I contend that these sufferings are not due to any original defect in the physical organization of woman, nor to the direct effect of the curse inflicted on her, but to the violation of physiological laws, as a consequence of the introduction of sin into the world. The physical organization of woman must have been perfect, as she emanated from the plastic hand of the Almighty.

And again, no one can doubt that the first woman had the same system of nerves, muscles and bones as the women of the present day; and therefore, if the first woman could have been delivered without pain, in the perfection of her physical organization, before the introduction of sin, so could she and her daughters continue to bear children without pain, unless their physical organization had been deteriorated by violations of the laws of their being.

Surely no one will be so absurd as to assume that God made any change in the anatomy or physiology of man or woman by pronouncing a curse on either. The natural or physiological laws, then, were unchangeable from the beginning—were instituted before the fall, and were not changed in a single "jot or tittle" by the fall, but remain in all their integrity and force to the present time. But while the laws which govern man's physical being are not changed, his *relation* to those laws *is* changed by reason of sin, which latter causes him to contravene those laws in numberless ways. And thus does he suffer the penalty which follows as an unavoidable sequence of his violations of physiological laws; and he or she, the man or the woman, suffers individually, reasonably, legitimately, and righteously, in this way and not as a *whole race*, through the mysterious and inexplicable operation of a harsh, indiscriminate and vindictive curse. Whenever men and women cease to transgress the laws of their organism—whenever they, by obedience to those laws, place themselves in proper relation to them—then they are visited with blessings, and not with curses; then the terrible curse on woman is no longer operative, and she can fulfill the great command to "multiply and replenish the earth," without pain, as the perfection of her unimpaired and unperverted physical organization abundantly qualifies her to do.

The curse on woman, then, must be regarded as a simple declaration—as a prediction of the evils that would befall her by reason of the violations of physiological laws, as a consequence of sin. All the evils resulting from such violations were foreseen by Divine Wisdom. They were announced beforehand, and they have been literally fulfilled, not by the *direct* withering influence of a curse, but by the voluntary, self-inflicted agency of woman, who still remains under the great primal law of the race—*obey and live, disobey and die.*

This law of *works* still prevails in the physical and physiological world. For moral transgressions we have an atonement, but there is no atonement for violations of physiological laws. The penalty *must* follow the infraction. Were it otherwise, the whole wise economy of the universe would be subverted, and still greater evils than those that now exist would befall the human race, by the removal of all salutary restraints.

How much more reasonable such doctrines as these—how much more accordant with Divine Wisdom—than the teachings of a misguided theology, which would make all the evils that afflict the human family the direct consequences of a curse inflicted on our first parents—a curse whose consequences can by no possibility be avoided!

Having, as I trust, established my first position—that parturition is not necessarily a painful process—I next proceed to notice, briefly, the means by which the pains of labor may be mitigated. This I must do in rather general terms, as it would prolong this paper too much to enter into the details of all the points involved.

To fulfill the great and all-important indication of removing that morbid irritability, and that excessive rigidity which are the great causes of the pains of labor, we should avail ourselves of every agent which will place the system in a natural, healthy condition; and as this morbid irritability is doubtless superinduced by bad habits of living in the majority of cases, the first step is the correction of those habits by the adoption of a natural, healthy mode of living. This, in most cases, will involve an entire change in the whole manner of life.

The pregnant woman, instead of taking an extra quantity of food, because "she has to eat for two," should eat only so much as the stomach can easily manage. Her diet should be mostly of the vegetable class, and cooling and laxative in its nature, avoiding all highly-seasoned and stimulating articles. The same rule applies to drinks, even to the exclusion of those common beverages, tea and coffee.

It is hardly necessary to urge on the attention of a body of physicians the importance of an abundance of pure air and sunlight—of properly-regulated exercise—of sufficient sleep—of perfectly loose clothing, and of mental and emotional quietude,

during the whole period of gestation. On these points I will only say that pure air, so necessary to health under all circumstances, is especially great during the latter stages of pregnancy, when the diaphragm is pushed upward by the ascending womb, thus diminishing the capacity of the lungs, while the liver and great blood-vessels are compressed, the whole circulation is oppressed, and the secretions and excretions are checked or suppressed.

Of exercise it is sufficient to say, that it is only another name for life itself; for life is motion—constant, ceaseless motion. Exercise promotes all the vital movements, and stands in direct antagonism to stagnation, disease and death.

As to the advantages and necessity of light, we can form some conception of its importance to animal life by considering its power in reversing the chemical and vital changes of vegetable life. It is well known that through the agency of light, vegetation absorbs carbon and gives off oxygen in the day, while at night just the reverse is true. The influence of the absence of light over vegetation is again manifest in rendering plants excluded from it, colorless, sickly, and brittle.

Of sleep, I will only say that the excitability of the nervous system of pregnant women, and the extraordinary drafts made on them, urgently demand an extra amount of sleep during gestation.

On clothing, it is needless to enlarge. The terrible evils arising from tightly-fitting dresses being admitted under all circumstances, the *murderous* effects of all kinds of constriction and compression in pregnancy are obvious.

It is equally unnecessary to dwell on the importance of the mental hygiene of pregnant women; suffice it to say that of all human beings, women, and especially child-bearing women, are under the greatest, the most sacred obligation to obey all the laws which govern their mental and moral constitutions.

Having thus hastily passed in review the principal hygienic agents to which we should give attention in pregnancy, there is one other agent which merits a more detailed notice, because I have reason to believe that its importance is not duly estimated by physicians. I allude to bathing. On this point I cannot do better than to extract from a published essay, read before the Atlanta Academy of Medicine.*

"To subdue the nervous and vascular excitement incident to pregnancy, and to depurate the blood, there is nothing so safe and effectual as tepid, cool, or even cold baths. These baths abstract excessive heat, equalize the circulation, remove internal congestions, and strengthen the whole system—thus preparing it to furnish suit-

* This essay treats more fully on the points above alluded to, and on others pertaining to the hygiene of gestation, than can be done in this paper.—*Vide Atlanta Medical and Surgical Journal*, December, 1871.

able elements for the new being, and to pass safely through the critical time of parturition. The feelings of the patient may be safely consulted as to the temperature of the water. The sponge-bath, or wash-down, is the best mode of applying it. Of course, the shower bath, and all applications that cause a violent shock, should be avoided. Pregnant women generally bear cold water remarkably well, but they cannot well tolerate violent impressions of any kind. The sponge bath should be used every day, or every other day, from the beginning of pregnancy, and the hip-bath should be resorted to once a day during the last month or two. The temperature of this should be moderate, and it should not be continued more than five or ten minutes each time. The cold hip-bath, with the general baths recommended, places the system in the most favorable condition for parturition, and, I may add, is one of the most, if not the most, effectual of all the means at our command for preventing or allaying that morbid irritability and that excessive rigidity which are the great, the principal, if not the sole, causes of the pains of labor."

While, in the cases of remarkably easy parturition reported in this essay, other means were not neglected, I must say that the gratifying results in these cases were, in my view, due more to judicious bathing than to any other or all other agencies. Yet, everything should be brought into requisition that will equalize, the circulation, promote the secretions and excretions, relieve oppression, hasten the vital, eliminative and nutritive functions, and allay nervous irritability. The principal means may be thus summed up: Good, digestible, laxative diet, in moderate quantities; cooling, bland, unstimulating drinks; avoidance of stooping or doubled positions; loose, comfortable clothing; pure air by day and night; abundant sleep; equanimity of mind; sunlight; and last, though not least, general and local baths, followed by friction of the skin.

Instead of multiplying details of treatment, I think I cannot do better than to conclude with the great principle which, I think, should govern and guide us in the management of pregnancy. It is this: *Pregnancy, though a natural physiological condition, is one of increased excitement, attended with extraordinary demands on the whole organism.* Bearing this principle in mind, and ever remembering that the great cause of the pains of parturition is a morbid irritability of the nervous system, attended with excessive rigidity or deficiency of vital expansibility, the proper treatment will readily suggest itself to every intelligent physician.—*Transactions of Georgia Medical Association.*

Editors' Book Table.

[NOTE.—All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

The Medical Register and Directory. Chicago, 1872-3. Edited and published by T. DAVIS FITCH, M.D., and NORMAN BRIDGE, M.D. Revised by the Presidents of the regular Medical Colleges and Societies of Chicago, and of the Illinois State Medical Society.

The prospectus of this little work having been already noticed in this journal, it only remains for us to say how far the work has verified the promises of its projectors.

In this regard we are glad to be able to congratulate the editors upon having violated the usual rule applying to promises, for they have done all that they promised, and more too, for they have adopted some suggestions thrown out by the JOURNAL, in its remarks upon their prospectus, which have added to the value and popularity of the work.

We trust that the work will be—is—a permanent institution, and will in a little while become a necessity to every physician in the State.

It is gratifying to see that the editors have had the moral courage to follow the example set by the Relief Committee last winter, in applying the amputating knife liberally, and lopping off excrescences and parasites from the professional body, which will receive renewed health and increased vigor from the operation. They have done well! and we trust they will sharpen up their knives and reheat their cauteries, for another application, before the issue of the next edition.

The work itself might be somewhat reduced in bulk, and advantageously too. The omission of the History and Code of Ethics of the American Medical Association, would be no loss to the work, and a decided gain to its readers, as we imagine very few are now

interested in that ingenious method of cheap advertising, which has long since outlived its usefulness even for that purpose.

The code of ethics of the medical profession is simply a verbal amplification and concrete application of an older and more venerable code, promulgated by a higher authority: "Do unto others as you would they should do unto you." He who appreciates this, can be trusted without the code—he who does not, cannot be trusted under its most rigid application. We hope to see in the next edition of this work, an alphabetical list of physicians, with the places of their graduation, and dates of their diplomas affixed.

H.

Hand Book of Compound Medicines, or Prescribers' and Dispensers' Vade Mecum. By ARNOLD J. COOLEY. London. Philadelphia: J. B. Lippincott & Co. 1873. Pp. 219.

A small volume of considerable information, rather intended for junior practitioners. It is an epitome of the prescriptions of the leading hospitals and physicians and surgeons of London. English doctors use more medicines than Americans, and the formulæ contained in this volume indicate drugs that will kill or cure. Very many of the prescriptions produced would not be used by the average American graduate, because he knows of remedies that would accomplish his purpose in a pleasanter way. No attention is paid—so it would seem—to freeing pills and potions from their native nauseousness and abominableness. Sugar coating for pills is alluded to as "*The Sugar Coated Pills of Quacks.*" Every American druggist can sugar-coat pills in a few moments, and the quackishness of the resort has never before come to our notice.

Very many good formulæ are contained in this small volume, and with the good ones are many that are simply atrocious. Vide p. 9. "Anti-bilious Pill." Here are the ingredients without the quantities: "Aloes—Colocynth—Rhubarb—Myrrh—Scammony—Ipecacuanha—Cardamom Seeds—Medicinal Soft Soap—Oil of Juniper, and Treacle"! And this is offered as an anti-bilious pill.

On the whole, the book may be said to contain prescriptions of English practice from time immemorial down to 1866—the year the volume first appeared in London.

J. H. E.

A Treatise on Diseases of the Nervous System. By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System, and Clinical Medicine, and of *Materia Medica* and Therapeutics, in the Bellevue Hospital Medical College, etc., etc. With 48 illustrations. Third edition, with additions and corrections. New York: D. Appleton & Co. 1872.

Lessons in Physical Diagnosis. By ALFRED L. LOOMIS, M.D., Professor of the Institutes and Practice of Medicine, in the Medical Department of the University of New York, etc., etc. Third edition, revised and enlarged. New York: William Wood & Co. 1872.

PAMPHLETS.

Transactions of the Georgia Medical Association at its Twenty-Third Annual Meeting, held in Columbus, Georgia, on the 10th, 11th and 12th of April, 1872.

Modern Medicine: a Lecture delivered Oct. 7th, 1872, introductory to the Course, at the Jefferson Medical College. By J. M. DaCOSTA, M.D., Professor of the Principles and Practice of Medicine. Philadelphia: J. B. Lippincott & Co.

Transactions of the Indiana State Medical Society, 1872. Twenty-Second Annual Session.

Transactions of the Twenty-Second Anniversary Meeting of the Illinois State Medical Society, held at Rock Island, May 21st and 22nd, 1872.

Transactions of the Minnesota State Medical Society, 1872.

Remarks on Strictures of the Urethra of Extreme Calibre, with cases and a description of New Instruments for their treatment. By F. N. OTIS, M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York, etc., etc. Reprinted from *New York Medical Journal*, February, 1872. New York: D. Appleton & Co.

On the Physiology of Syphilitic Infection. By FESSENDEN N. OTIS, M.D. Reprinted from *The Medical Gazette*. New York: F. Leypoldt. 1872.

On the Physiology of Syphilitic Infection as applied to the Successive Manifestations of the Disease. By FESSENDEN N. OTIS, M.D. Part Second. Reprinted from *New York Medical Journal*, July, 1872. New York: D. Appleton & Co.

Medical and General Science as Vindicators of the Mosaic Record, and as Repudiators of the Modern Doctrines of Development and Selection. By E. S. GAILLARD, M.D., Professor of the Principles and Practice of Medicine in the Louisville Medical College, etc. (Reprint from October No. *Richmond and Louisville Medical Journal*.)

What Physiological Value has Phosphorus as an Organismal Element? An Essay to which was Awarded the Prize of the American Medical Association for the year 1872. By SAMUEL R. PERCY, M.D., Professor of Materia Medica in the New York Medical College, etc., etc., etc.

An Illustrated Catalogue of the Medical and Scientific Publications of William Wood & Co., New York, for 1872.

Aiken (South Carolina) and its Climate. By AMORY COFFIN, M.D., and W. H. GEDDINGS, M.D. 1872.

School of Mines, Columbia College, 1871-72. Catalogue of Students, etc.

Second Annual Commencement and Catalogue of the Thompson Free Medical College of New York, for Women. 1872.

Proceedings of the Pathological Society of Philadelphia. Vol. III. Philadelphia: 1871.

Physicians' Visiting List for 1873. Philadelphia: Lindsay & Blakiston.

Treatment of Asthma.

George Goskoin, surgeon to British Hospital for Diseases of the Skin, has had success in treating this disease by rubbing briskly into the chest, for the space of an hour, a chloroform liniment. The counter-irritation produced by the liniment was of benefit, but this benefit was increased by the jolting resulting from the rubbing. Anything that leads to the displacement of the air stagnant in the vesicles has proved able to relieve in many instances. It is advised that the friction be made with as much roughness as the case admits. Slight blows with the palm of the hand or the end of a towel on the ribs are quite allowable; and the friction should be extended to the front of the neck at the lower part, where the vagi enter the chest. The composition of the liniment need not trouble us, provided it be warm and work well.—*British Med. Jour.—The Detroit Review of Medicine.*

Editorial.***Last No. of the Volume.***

Subscribers will take notice that this is the final No. for 1872. Prompt remittance for 1873 is desirable, that our publishers may know how many copies to print. The very expensive style in which the JOURNAL is sent out to its readers, renders it necessary that no more extra copies should be issued than are absolutely required. Payment in advance will continue to be the invariable rule. No pains will be spared on the part of the publishers to keep up the high standard of typographical excellence which under their management has heretofore characterized the JOURNAL.

Contributors

Are cordially thanked for the variety and value of the articles which they have afforded us the year now concluding, and continuance of their favors is both earnestly solicited and confidently expected. We shall welcome new recruits with great pleasure.

The Editors

Will do their best to make the JOURNAL a vehicle for the most important and interesting productions of medical thought and observation, wheresoever they may be secured. The mere writing of "editorials" is the smallest part of an editor's duty—although some have the idea that that is the only thing to be done. The medical journal should be the reflex of the advanced opinions, and the chronicle of the discoveries and improvements of the profession. The advancement of personal interests, the dissemination of pet notions, the cultivation of professional polemics, or even denunciation of quacks, although well enough in their place, should not, in our opinion, be allowed to usurp space and time that can be devoted to higher uses.

Freedom of inquiry never damages when clear heads interrogate. Freedom of expression never injures where ordinary courtesy governs the individual. It is possible for the scientific medical journal to powerfully influence professional thought and observation without sermonizing on the matter.

In the future, as in the past, this JOURNAL will seek to promote the highest interests of the profession by illustrating what it thinks and does, and not merely clamors about and assumes.

The Index of the volume that closes with this No. will give "in a nutshell" an idea of what the year has accomplished. Favor us with your subscriptions and your contributions, and 1873 shall be as 1872, "but much more abundant."

Clinical Charts.

W.W. Keen, M.D., of Philadelphia, has issued, through Turner Hamilton, Publisher, a series of diagrams to facilitate the keeping of clinical notes. By their use the observations made are indicated to the eye at once, avoiding long verbal descriptions. The physical signs, locations of diseases, measurements, etc., etc., can be noted in a moment. A final chart enables a record of the pulse, temperature and respirations to be made and appreciated *tuto, cito et jucunde*. Address the publisher as above, No. 106 South Tenth Street, Philadelphia.

Lindsay & Blakiston

Have issued another edition of Aitken's Practice, and although large additions have been made, they have presented it in a more compact form than previous editions. We take pleasure in calling attention to their new and revised catalogue of publications, wherein we find noted many new and valuable books. They will send the new catalogue free to any person desiring it. Address them at Philadelphia.

Epizootic.

The horse influenza has nearly disappeared from this city, but is still ravaging many parts of the country. We hope that some of our friends will furnish for the JOURNAL a complete and scientific history of this enormous nuisance—for thus it has really proved, especially to physicians in this city of magnificent distances. *Apropos* to the epizootic, we are gratified in being able to announce that measures are being taken to secure a higher grade of professional care and management of that noblest of quadrupeds, the horse. The epizootic will not have been without its use if it should result in the establishment of a veterinary

college of superior merit in this city. The poor horse has been a long-suffering animal, that will hereafter be more highly prized and better cared for than ever heretofore. The Illinois Humane Society, through their efficient agent, Dr. Charles T. Zaremba, are giving the subject their immediate attention.

Dangerous Formula.

Fred. Clemmer, M.D., of Waterloo, N. Y., calls the attention of readers to a formula given by a correspondent of the JOURNAL in June last, embracing in one prescription, Iod. Potassii, Potassæ Chlorat. and Potassæ Carb. It will be noticed that the chemical changes ensuing would give compounds of a highly irritant if not poisonous nature. *Verb. Sap.*

Vick's Floral Guide for 1873.

The Guide is now published quarterly; 25 cents pays for the year, four numbers, which is not half the cost. Those who afterwards send money to the amount of one dollar or more for seeds may also order 25 cents worth extra—the price paid for the Guide. The January number is beautiful, giving plans for making rural homes, designs for dining table decorations, window gardens, etc., and containing a mass of information invaluable to the lover of flowers. One hundred and fifty pages, on fine tinted paper, some five hundred engravings, and a superb colored plate and chromo cover. The first edition of two hundred thousand just printed in English and German, and ready to send out. JAMES VICK, Rochester, N. Y.

Arsenic in Dyspepsia.

Dr. J. C. Thorowgood, in the *Practitioner*, speaks highly of the action of arsenic in many diseases of the stomach. He has found that one-drop doses of Fowler's solution in half an ounce of infusion of columbo had the effect, in a case he treated, of allaying the pain, stopping the vomiting of food, and enabling the patient to eat and digest small quantities of mutton. He states that the usual irritable tongue, with projecting papillæ and yellow or gray fur, indicate arsenic. The more purely local the gastric symptoms, the better is the chance of arsenic doing good. Where there is much general exhaustion of the system, with disordered urine or hepatic congestion, it does not promise much.—*The Georgia Medical Companion.*

Foot.

Fœtal Femur Embedded in Uterus.

At the recent meeting of the *British Medical Association*, Dr. Evory Kennedy, late Master of the Dublin Lying-in Hospital, reported several singular cases, among which was the following :

A lady was brought from the country, anæmic, wasted, and with a countenance expressive of pain and suffering. She had a constant fetid vaginal discharge, which was purulent and occasionally sanious. She was said to have miscarried a year before. She complained of pelvic distress, with lumbar pains and frequent micturition. On vaginal examination, the uterus was found about double its natural size ; the os slightly patulous, and a solid resistance presented to the introduction of the finger. After dilatation of the os by means of a two-bladed dilator, a bony substance was found traversing the neck of the uterus at its junction with the body of the organ. It was first necessary to break the bone across with bone-forceps, before it could be detached from the uterine walls, and on being extracted it proved to be the femur of a fœtus of about four months' development, which had, by its presence, led to the formation of an abscess in the uterine walls. The health of the woman became very much better, but was never entirely restored, although she again bore children after a number of years.—*Medical Record*.

Cholera Remedy.

New Remedies for April, 1872, contains the following cholera prescription, a favorite one of Dr. H. Hartshorne, of Philadelphia : R. Chloroform, tinct. opium, spts. camphor, spts. ammonia aromatic, aa f dr. iss. ; creasote, gtt. iij. ; oil of cinnamon, gtt. viij. ; brandy, f dr. ij. Mix. Dilute a teaspoonful with a wine glass of water, and give two teaspoonfuls every five minutes, followed by a lump of ice.—*Med. Record*.

Carbolic Acid in Scarlatina.

Dr. Chapin (*Mich. Univ. Med. Jour.*) is very partial to the internal use of carbolic acid, and has come to consider it almost a specific in this disease. He is accustomed to use something like the following formula : R. Acid carbolici, tr. opii, ætheris chlor., aa dr. j. ; glycerinæ, aquæ cinn., aa oz. ij. M. Sig. A teaspoonful every four hours. He also uses the acid as an application to the throat.

